Instituto Politécnico de Setúbal

Mestrado em Segurança e Higiene no Trabalho
Projecto Final

Melhoria na Segurança e Higiene no Trabalho Após a Certificação Numa Multinacional

Nome: Lígia do Carmo Coelho Gaudêncio

Orientador: Professor Alípio Garcez

Setúbal (2010)

Agradecimentos

O presente projecto, só foi possível devido ao apoio e a colaboração de várias pessoas, que sempre se mostraram receptíveis e prestativas para os problemas levantados ao longo do projecto, às quais gostaria de aqui deixar o meu agradecimento:

- Ao docente, Alípio Garcez, orientador do projecto, que proporcionou as condições necessárias para a elaboração deste trabalho e pelo constante e indispensável apoio, disponibilidade e acompanhamento em todas as fases ao longo destes meses de elaboração;

- A todos os docentes e não docentes da Escola Superior de Tecnologia de Setúbal e Escola Superior de Ciências Empresariais;

- Aos colegas da 2ª Edição do Mestrado de Higiene e Segurança no Trabalho pelo incentivo, paciência, intercâmbio de ideias que foram cruciais nos momentos mais difíceis;

- A minha família, pelo apoio incondicional e pela confiança que me incutiram ao longo da minha vida, sei que a vós devo o facto de ser aquilo que sou hoje;

Setúbal, Janeiro de 2010

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LISTA DE SIGLAS E ABREVIATURAS

Sigla	Significado
DL	Decreto-Lei
EN	Norma Europeia
EPI	Equipamento de Protecção Individual
HST	Higiene e Segurança do Trabalho
ISO	International Standard Organization
OIT	Organização Internacional do Trabalho
OHSAS	Occupational Safety and Health Administration System
PDCA	Plan Do Check Act
SHST	Segurança, Higiene e Saúde no Trabalho
SST	Segurança e Saúde no Trabalho
SGSST	Sistema de Gestão de Segurança e Saúde no Trabalho
Não Cert.	Não Certificada
Cert.	Certificada

RESUMO

As empresas implementam os Sistemas de Gestão de Saúde e Segurança segundo a norma OHSAS 18001, visando a redução da quantidade e de custos com os acidentes, o maior rigor no cumprimento da legislação de segurança e saúde e / ou melhoria das condições de trabalho. Associado a estas questões há também uma competitividade e uma permanência no mercado que impõe mudanças na forma de gerir a organização, exigindo também projectos que suportem a promoção do desenvolvimento sustentável, como alternativa para uma vida social com mais qualidade.

Assim sendo, esta dissertação tem como objectivo comprovar que a obtenção da certificação segundo a OHSAS 18001, contribui para a diminuição dos acidentes de trabalho. Este estudo demonstrará as vantagens da certificação segundo o referencial normativo OHSAS 18001, tem ao nível de uma empresa que pertence a um grupo multinacional. Os objectivos específicos serão a comparação entre duas empresas em estudo, pertencentes ao mesmo grupo, e analisar os factores que contribuíram para a diminuição dos acidentes e melhoria da Segurança e Higiene no Trabalho.

A tese de mestrado é composta por uma breve introdução, onde são apresentados a pergunta de partida e respectivos objectivos. O desenvolvimento do trabalho encontra-se em três capítulos (a revisão da literatura, a metodologia e a análise dos dados obtidos) e finalmente a conclusão. No primeiro capítulo fez-se uma revisão bibliográfica sobre a temática em questão, sendo abordados o enquadramento legal e a evolução histórica da certificação segundo a norma OHSAS 18001. No segundo capítulo, foi abordado a metodologia desenvolvida sobre os casos de estudos e no terceiro capítulo, a análise de dados obtidos e discussão. No final, surgem as conclusões em que se verifica que os resultados obtidos vão de encontro com a pergunta de partida e respectivos objectivos e um balanço do contributo desta tese de mestrado.

ABSTRACT

The companies implement the management systems of health and safety according to OHSAS 18001, aiming at reducing the quantity and cost of accidents, more rigorous in enforcing the health and safety laws and / or improvement of working conditions. Associated with these issues there is also a competitive and to remain on the market that requires changes in the way of managing the organization, which also requires projects that support the promotion of sustainable development as an alternative to a social life with more quality.

Therefore, this dissertation aims to prove that obtaining certification according to OHSAS 18001, contributes to the reduction of accidents. This study show us the advantages of certification according to the reference standard OHSAS 18001, is the level of a firm belonging to a multinational group. The specific objectives compare two companies under study, the same group, and analyze the factors that contributed to reducing accidents and improving the Health and Safety at Work.

The master's thesis consists of a brief introduction, which focuses on the initial question and objectives. The development work is in three chapters (the literature review, methodology and data analysis) and finally the conclusion. In the first chapter there was a literature review on the subject in question, which addressed the legal and historical evolution of the certification to OHSAS 18001. The second chapter discussed the methodology was developed on the case studies and the third chapter, the analysis of data and discussion. Finally, could be concluded that the results are in agreement with the initial question, objectives and an assessment of the contribution of this master's thesis.

Introdução

O tema desta dissertação do Mestrado em Segurança e Higiene no Trabalho é a demonstração de que um Sistema de gestão de saúde e segurança em empresas contribui para a diminuição dos acidentes de trabalho após a certificação segundo o referencial da norma OHSAS 18001.

A OHSAS 18001 é um referencial internacional, que permite às Organizações implementar um Sistema de Gestão de Saúde e Segurança pró-activo, dotando-as das ferramentas necessárias para controlar os riscos e melhorar o seu desempenho. Permite à organização ter o controlo e conhecimento de todos os riscos relevantes, quer das suas actividades normais, quer de situações anómalas e melhoria da sua performance.

O mercado e as fronteiras de investimento nos dias actuais diferem muito desde as últimas décadas. Muitos factores contribuíram para este novo panorama dos negócios, podendo-se citar a globalização como um dos que mais fortemente impôs às empresas estratégias para um mundo competidor.

Uma acção fundamental para manter-se no mercado é a capacidade de antecipação das empresas, sendo um factor determinante para as tendências de comportamento dos concorrentes, dos clientes e do ambiente de negócios, visando a constante reformulação das estratégias competitivas.

A necessidade da redução dos custos do sistema produtivo num mercado extremamente competitivo favorece o desenvolvimento de mecanismos para eliminar ineficiências, entre as quais se encontram as necessidades na segurança e saúde do trabalho. Neste aspecto, o sistema de gestão de segurança define uma estrutura organizacional, responsabilidades, procedimentos, processos e recursos materiais e humanos necessários para realizar a gestão da segurança e saúde.

Ultrapassada a fronteira legal, os sistemas de gestão não devem ser implantados com o único objectivo de cumprir as exigências legais. Compartilhar uma nova cultura, baseada na prevenção de acidentes de trabalho, visando a saúde do empregado traz como consequência, o incremento da produtividade e a melhoria da qualidade dos serviços prestados.

A pergunta de partida será:

"Qual a Melhoria da Segurança e Higiene no Trabalho verificada numa empresa após a certificação segundo a norma OHSAS 18001?

Tomando em análise o caso de uma empresa certificada segundo a norma OHSAS 18001, analisando o histórico dos acidentes na empresa e quais as causas desses mesmos acidentes.

Analisar outro caso, de forma a efectuar a comparação com a empresa em estudo, de forma a comprovar a diminuição dos acidentes após a certificação. Analisar aspectos em comum entre as duas empresas.

O objectivo geral será comprovar que a obtenção da certificação origina a diminuição dos acidentes de trabalho, entre outros. Este estudo pretende também demonstrar a vantagem na certificação segundo a norma OHSAS 18001 têm ao nível da empresa.

Os objectivos específicos serão a comparação entre duas empresas em estudo e analisar os factores que contribuíram para a diminuição dos acidentes e melhoria da Segurança e Higiene no Trabalho.

Capítulo I – REVISÃO DA LITERATURA

As organizações de todos os tipos estão cada vez mais empenhadas em alcançar e demonstrar um bom desempenho na área da Saúde e Segurança no Trabalho aos seus accionistas, colaboradores, clientes e outras partes interessadas, através da correcta gestão dos riscos e melhoria dos efeitos sobre os produtos, pessoas, serviços e actividades. A crescente exigência da legislação, o desenvolvimento das políticas económicas, a gestão de recursos humanos, é alguns dos factores que impulsionaram o desenvolvimento da Saúde e Segurança nas Organizações. A preocupação dos accionistas e outras partes interessadas demonstra um claro e definitivo compromisso com a Saúde e Segurança, que conduzirá ao desenvolvimento sustentável, à melhoria contínua e a ultrapassar com sucesso os outros desafios colocados pela Globalização.

Assim sendo a certificação OHSAS contribui para o aumento da segurança, é uma acção estrutural e metodológica na prevenção de acidentes, um conceito expandido a todos os colaboradores da empresa que os tem como grandes valores. Certificação não é um prémio e, sim, uma mudança de comportamento, é uma valorização às pessoas.

1. Benefícios da Gestão da SST

A segurança, e Saúde no trabalho visa manter a integridade física e mental dos trabalhadores e a sua abordagem nas empresas tem procurado o cumprimentos dos requisitos legais aplicáveis, sendo regulada pela intervenção do Estado através da Inspecção do trabalho. Usualmente, e nas organizações mais preocupadas com a SST, é esse o único fim que é perseguido: estar dentro da lei.

Alguma legislação e alguns autores usam a designação segurança, higiene e saúde no trabalho (SHST), embora a designação tenha um significado mais lato.

A Lei n.º 102/2009, de 10 de Setembro, que entrou em vigor no passado dia 1 de Outubro de 2009, aprova o novo regime jurídico da promoção da segurança e da saúde no trabalho, revogando a legislação anterior, o Decreto-lei n.º 441/91 de 14 de Novembro, que transpôs para a ordem jurídica interna a Directiva 89/391/CEE. Este diploma estabelece um vasto conjunto de medidas gerais destinadas a promover a melhoria da segurança e da saúde dos trabalhadores no trabalho, estipulando os deveres da entidade patronal e dos trabalhadores e impondo a adopção, pelas empresa (independentemente da modalidade de organização adoptada) de um conjunto de actividades, a desenvolver pelos serviços de SST, das quais se destacam:

- Informação técnica relativa aos componentes materiais de trabalho, tanto na fase de projecto como de execução;
- Identificação e avaliação dos riscos para a saúde e a segurança dos trabalhadores;
- Controlo periódico dos riscos resultantes da exposição a agentes físicos, químicos e biológicos;
- Planeamento da prevenção e a sua integração a todos os níveis e actividades da empresa;
- Elaboração do programa de prevenção dos riscos profissionais;
- Vigilância e promoção da saúde dos trabalhadores;
- Organização e manutenção dos registos clínicos e outros elementos informativos relativos a cada trabalhador;
- Informação e formação sobre os riscos para a saúde e segurança, bem como sobre as medidas de protecção e prevenção adoptadas;
- Organização dos meios destinados à protecção, a nível colectivo e individual;
- Coordenação das medidas a adoptar em caso de perigo grave e iminente;
- Afixação de sinalização de saúde e segurança no trabalho;

- Recolha e tratamento de elementos estatísticos relevantes para a área da SHST;
- Implementação de inspecções ou auditorias internas relativamente ao grau de controlo e sobre a observância das normas e medidas de prevenção.

Estas actividades, para serem devidamente eficazes, deverão estar articuladas e integradas com os métodos de trabalho e de produção, no conjunto das actividades da empresa e a todos os níveis da hierarquia; sendo a articulação e a integração essenciais para que a actividade preventiva acompanhe as mudanças rápidas das condições, processos e organização do trabalho devidas principalmente ao progresso tecnológico e à pressão da competição.

O novo regime mantém as obrigações gerais do empregador, como sejam assegurar ao trabalhador condições de segurança e de saúde em todos os aspectos do seu trabalho e zelar, de forma continuada e permanente, pelo exercício da actividade nestas condições.

O trabalhador tem direito à prestação de trabalho em condições que respeitem a sua segurança e a sua saúde, devendo o empregador assegurar que o desenvolvimento económico promove a humanização do trabalho em condições de segurança e de saúde e efectuar uma correcta e permanente avaliação dos riscos profissionais.

A legislação nacional não impõe, formalmente, às empresas a obrigatoriedade de ter uma prevenção integrada nem uma política escrita no domínio da SHST, com a fixação dos objectivos a atingir, um planeamento e orçamentos específicos e o consequente comprometimento das administrações (embora a legislação considere o administrador executivo o primeiro responsável pela SHST na organização). Daí que a generalidade dos empregadores não adopte, nesta matéria, uma questão orientada por uma lógica de custos e resultados, encarando-a antes como um custo que é necessário minimizar, privilegiando como objectivo único o mero cumprimento (mínimo) dos requisitos legais.

No entanto, fruto da maior exposição mediática que os acidentes de trabalho vêm adquirindo e da consequente pressão da sociedade, algumas empresas começaram já a abordar a SHST de uma forma sistemática e integrada, fazendo uso de suportes normativos. Esta abordagem é voluntária e considera a SHST segundo metodologias de gestão, baseadas num referencial normativo, tratando este domínio das organizações de forma

semelhante à gestão da Qualidade e à gestão Ambiental, tendo os três suportes normativos uma estrutura e conteúdo que permite facilmente a sua integração num sistema único.

Usualmente, na mente dos que têm a função de gerir uma empresa, a noção de sistema surge associada a aumento da “papelada” e da burocracia, tendo como único beneficiário o marketing, sendo todo o sistema montado como a única preocupação de cumprir os requisitos da norma, de forma a obter rapidamente a certificação. Ora, um sistema de gestão de SST pode, se for encarado pela direcção como uma mais valia, aportar outros benefícios valiosos para a organização e, um sistema pode (e deve) existir sem que a organização pretenda a sua certificação.

Para maximizar os benefícios, é essencial envolver todos os colaboradores da organização, independentemente das suas funções e posição hierárquica, na fase de projecto e implementação do sistema, de forma que todos sintam o sistema como obra sua.

1.1 OHSAS 18001

A OHSAS 18001 (**O**ccupational **H**ealth and **S**afety **A**ssessement **S**eries) é uma norma de Sistema de Gestão de Saúde e Segurança Ocupacional. Esta norma foi publicada em 1999 (OHSAS 18001:1999) e posteriormente revista em 2007 (OHSAS 18001:2007) pelo BSI e a sua estrutura foi baseada na norma BS 8800 (Norma britânica voltada para a saúde ocupacional e segurança), sendo desenvolvida com a cooperação de diversas associações e órgãos de certificação internacionais. A organização que opta pela sua implementação pretende demonstrar um desempenho de segurança e saúde ocupacional correcto, controlando os riscos das suas actividades, produtos ou serviços, procurando a preservação da saúde e segurança dos colaboradores. O controlo dos riscos de acidentes e de doenças profissionais provenientes das suas actividades têm feito com que cada vez mais as organizações de todos os tipos estejam mais preocupadas em atingir e demonstrar o seu desempenho da saúde e segurança no trabalho. Miamoto (2001) citado por Araújo et al (2006).

Os custos humanos e financeiros para os trabalhadores, empregadores e para a sociedade em geral, resultante dos acidentes de trabalho e das doenças profissionais não são totalmente reflectidos pelas estatísticas oficiais dos acidentes de trabalho. As vantagens da introdução nas organizações dos sistemas de gestão da Segurança e Saúde no Trabalho (SST), sejam ao nível da redução dos perigos e riscos como relativamente ao acréscimo de produtividade, têm conquistado um crescente reconhecimento pela sociedade em geral – governantes, empregadores e trabalhadores. Por outro lado, uma organização que previna e minimize os riscos associados às suas actividades e se certifique (de acordo com um referencial reconhecido) vai oferecer uma maior confiança e uma melhoria de imagem, quer para os seus investidores, quer para os seus clientes. (CAPELAS, 2002)

As normas OHSAS 18001 surgiram do anseio da sociedade em obter parâmetros para a comparação das suas organizações. Apesar de não ser uma obrigatoriedade legal, a adesão das empresas à sua implementação tem sido crescente. As especificações da norma foram desenvolvidas por um conjunto de órgãos independentes como resposta urgente às partes interessadas (fornecedores, clientes e sociedade), de ter uma norma para o sistema de gestão de saúde e segurança que possa servir de base para a implementação, avaliação e certificação de seus próprios sistemas de gestão (OHSAS 18001:1999).

As organizações, de todos os tipos, estão cada vez mais preocupadas em atingir e demonstrar um desempenho de SST sólido, através do controlo dos seus riscos para a SST, tendo em consideração a sua política e objectivos de SST. Estas preocupações surgem no contexto do aparecimento de legislação cada vez mais restritiva, do desenvolvimento de políticas económicas e de outras medidas que fomentam cada vez mais boas práticas de SST, e de um crescimento generalizado das preocupações de partes interessadas sobre questões de SST. (OHSAS 18001:2007)

Muitas organizações levaram a cabo “avaliações” ou “auditorias” de SST, para avaliar o seu desempenho em matéria de SST. No entanto, estas “avaliações” e “auditorias” poderão não ser, por si só, suficientes para dar a uma organização a garantia de que o seu desempenho não só cumpre, como continuará a cumprir, os requisitos legais e os da sua política. Para que sejam eficazes, é necessário que tais procedimentos sejam realizados no contexto de um sistema de gestão estruturado e integrado na organização.

As Normas OHSAS referentes à gestão da SST destinam-se a proporcionar às organizações os elementos de um sistema de gestão da segurança e saúde do trabalho eficaz, que possam ser integrados com outros requisitos de gestão, a fim de ajudar essas organizações a atingir os objectivos de SST e económicos. Estas Normas, tal como outras Normas Internacionais, não pretendem criar barreiras ao comércio nem ampliar ou alterar as obrigações legais de uma organização mas sim incrementar a segurança.

A Norma OHSAS 18001 especifica os requisitos para um sistema de gestão da segurança e saúde do trabalho que permita à organização desenvolver e implementar uma política e objectivos, tendo em consideração requisitos legais e informação sobre riscos para a SST. Foi redigida de forma a ser aplicável a organizações de todos os tipos e dimensões e a adaptar-se a diversas condições geográficas, culturais e sociais. O sucesso do sistema depende do compromisso de todos os níveis e funções da organização, e especialmente da Gestão de topo. Um sistema deste tipo permite a uma organização desenvolver uma política de SST, estabelecer objectivos e processos para atingir os compromissos da política, actuar conforme necessário para melhorar o seu desempenho e demonstrar a conformidade do sistema com os requisitos desta Norma OHSAS. O objectivo global desta Norma OHSAS é apoiar e suportar boas práticas de SST, em equilíbrio com as necessidades socioeconómicas. Deve salientar-se que muitos dos requisitos que constam na norma podem ser considerados simultaneamente ou reavaliados em qualquer altura.

1.1.1 Vantagens da certificação segundo o referencial OHSAS 18001

Os sistemas de Gestão da Segurança e Saúde do trabalho são subsistemas da gestão global da empresa à semelhança dos sistemas de gestão da qualidade e dos sistemas de gestão ambiental, e baseiam-se, ambos, nos princípios da "garantia" da qualidade, nomeadamente:

- Fornecer uma abordagem sistemática de todas as actividades que possam influenciar a segurança e saúde, a qualidade e/ou ambiente;
- Privilegiar as actividades de prevenção em vez de confiar apenas nos resultados da inspecção/medição/monitorização;
- Fornecer uma evidência objectiva de que a segurança e a saúde foram alcançados a menor custo. (Ramos Pires et al, 2006)

As normas OHSAS 18000 são um guia para implementação de sistemas de gestão de segurança e higiene ocupacional. A certificação pela OHSAS 18000 acentua uma abordagem pela minimização do risco. Reduzindo com a sua implementação, os acidentes e doenças do trabalho, os tempos de paragem, e consequentemente os custos económicos e sobretudo humanos.

As vantagens da certificação segundo a norma OHSAS 18001 servem para:

- Evidenciar o funcionamento do sistema de higiene e segurança da sua empresa;
- Eliminar/minimizar os riscos de acidentes, garantindo a protecção dos colaboradores da empresa, com consequente redução dos riscos laborais;
- Adopção por parte da organização e colaboradores de boas práticas de Higiene Segurança e Saúde no Trabalho;
- Cumprir os requisitos legais, contratuais, sociais e financeiros de segurança e higiene no trabalho;
- Adoptar o sistema de gestão de HST que permita cumprir os requisitos legais, sendo este compatível com outros tipos de sistema de gestão existentes (Gestão da Qualidade - ISO 9001- e sistemas de Gestão Ambiental - ISO 14001) o que permite a existência de um sistema de gestão integrado;
- Melhorar a eficiência e, consequentemente, reduzir acidentes e custos associados;
- Aumentar o controlo dos perigos, reduzindo os riscos através da definição de objectivos, metas e responsabilidades;
- Motivação dos colaboradores;

- Aumentar a confiança de clientes, accionistas, comunidade e demais partes interessadas;
- Reduzir prémios de seguro;
- Consolidar uma estratégia de desenvolvimento sustentado;
- Melhorar e encorajar uma efectiva comunicação interna e externa.

Segundo Sérgio Miguel (2004) as principais vantagens dos SGSST são: a **Definição de prioridades** (um SGSST pode definir prioridades no planeamento na organização, no controlo, na monitorização e na revisão das medidas para proteger as pessoas dos riscos do trabalho); **ajuda na integração de sistemas** (a estrutura de um SGSST é semelhante à de um sistema de gestão da qualidade ou de gestão ambiental); **melhoria Continua** (a Organização poderá melhorar áreas que não estão a funcionar de forma eficiente ou eficaz, através de revisões e de auditorias para identificar, sistematicamente, as oportunidades de melhoria); **Sustentabilidade** (um SGSST estabelece necessidades e incentivos para se auto-sustentar, incorporando as exigências para a melhoria contínua); **Preparação de emergência** (os SGSST devem assegurar que estão disponíveis os recursos adequados para responder a cenários de emergência); e a **Gestão sistemática dos riscos** (um SGSST cria um sistema estruturado para o cumprimento, quer da legislação aplicável, quer das melhores práticas dos diferentes sectores de actividade).

Para o autor Abel Pinto (2009) também *"… o sistema de gestão da SST é entendido como um subsistema do sistema global de gestão da organização, devendo interagir e ser compatível com os demais subsistemas e que possibilita a gestão dos riscos para a SST relacionados com as actividades da organização e que inclui a estrutura operacional, as actividades de planeamento, as responsabilidades e respectivas autoridades, as práticas, os procedimentos, os processos e os recursos para desenvolver, executar, prosseguir, rever e manter a politica de SST da organização. É composto por um conjunto de directrizes para utilização pelos gestores da SST e não substituem as leis nem os regulamentos nacionais ou internacionais. Tem por finalidade estabelecer uma politica adequada e objectivos de SST e alcançar esses objectivos em tempo considerado útil. Para tal, adopta o ciclo de Deming, usualmente denominado de ciclo de melhoria contínua que consiste em planear, implementar, avaliar e actuar correctivamente de modo que, sistematicamente, a organização possa obter resultados cada vez melhores com relação aos seus indicadores de SST. A filosofia do ciclo de melhoria contínua é utilizar o processo de aprendizagem de*

um ciclo para aprimorar e ajustar expectativas para o ciclo seguinte. Este processo repete-se de forma permanente."

A gestão da segurança pode ser traduzida pelo modelo seguinte.

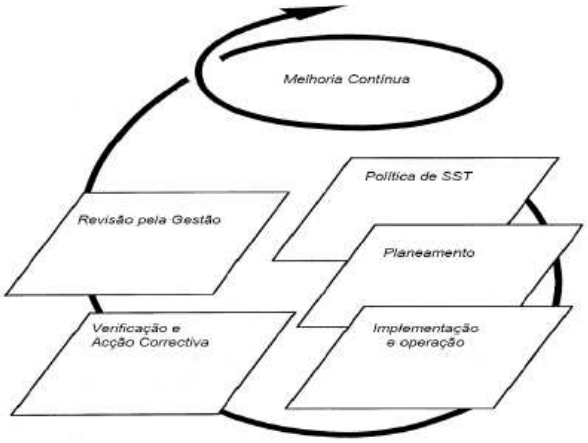


Figura 1: Modelo de sistema de gestão da SST para a Norma OHSAS 18001.
Fonte: OHSAS 18001, 2007

Resumindo, um sistema de gestão da SST constitui uma parte do sistema global de gestão de uma organização que visa o controlo dos seus aspectos de SST, através de uma abordagem estruturada e planeada à gestão em todas as vertentes: segurança industrial, higiene, ergonomia, psicossociologia, sociologia, etc., envolvendo toda a estrutura da organização e todos os outros que sejam influenciados pelas actividades, equipamentos, produtos e processos da organização que provocam ou possam vir a provocar acidentes humanos e/ou materiais implementando um processo pró-activo de melhoria contínua. Este processo é dinâmico visto que está sujeito a uma avaliação periódica, onde são analisados os objectivos propostos, o seu cumprimento e a eficácia das medidas correctivas implementadas. Este esforço de gestão deve resultar numa melhoria sempre continua do desempenho da organização em matérias de SST.

Um sistema deve assegurar, como mínimo, os seguintes aspectos:

- Definir a estrutura operacional;
- Estabelecer as actividades de planeamento;
- Definir as responsabilidades e autoridades;
- Definir os recursos;
- Estabelecer as práticas e procedimentos;
- Assegurar a identificação dos perigos e a avaliação e controlo dos riscos;
- Demonstrar o cumprimento dos requisitos legais ou outros que a organização subscreva.

Começa a existir alguma preocupação, por parte das organizações, com a relação custos/benefícios decorrentes do cumprimento das suas obrigações em matéria de SST bem como de outras iniciativas voluntárias no domínio da promoção da segurança e saúde no trabalho, numa lógica de encarar a SST como um investimento e não como um mero custo que importa minimizar.

Quem tem alguns conhecimentos, mesmo que rudimentares, de gestão sabe que só é possível gerir o que se conhece (e mede), ou seja, gerir pressupõe:

- A fixação de objectivos;
- O planeamento das acções necessárias para os atingir;
- A avaliação da eficácia de execução do planeado.

Assim, é de esperar que a prevenção dos riscos profissionais e a vigilância e promoção da saúde dos trabalhadores, possam ser analisadas pelas organizações, no final de cada exercício, na sequência da avaliação das actividades planeadas e implementadas ao longo do ano, com vista a atingir:

- O cumprimento da legislação e regulamentação em matéria de SHST;
- A redução de absentismo por doença e acidente;
- A redução de prejuízos materiais devidos a acidentes e incidentes;
- A melhoria da motivação do pessoal;
- A melhoria da imagem da empresa.

Os benefícios expectáveis não são automáticos e, alguns difíceis de avaliar e quantificar a curto prazo, como por exemplo:

- A melhoria do clima organizacional, constituindo-se como o “motor” da melhoria continua;
- A melhoria da saúde e do bem-estar dos trabalhadores, por diminuição dos riscos para SST, diminuindo igualmente os custos e prejuízos a eles associados;
- A redução dos custos de controlo das condições de SST na organização, nomeadamente através da identificação sistemática de oportunidade de prevenção;
- A evidência do cumprimento da legislação aplicável em matérias de SST;
- O aumento da motivação e consciencialização dos colaboradores para assuntos relativos à SST (com os consequentes aumentos da produtividade e da qualidade, conseguidos por via da redução de perdas);
- A melhoria da imagem da empresa, junto das partes interessadas (vizinhança, clientes, autoridades do sector, seguradoras …).

Por fim, não se pode ignorar que esses benefícios, económicos e/ou sociais, não revertem só para o empregador: beneficiam também o trabalhador (na melhoria da sua saúde, por exemplo) e a respectiva família, o Estado (na redução das despesas com o serviço nacional de saúde e com a Segurança social), as seguradoras (na redução da indemnizações e custos de recuperação dos sinistrados) e a sociedade civil em geral (na melhoria dos índices de produtividade do país, por exemplo).

O investimento associado à implementação de sistemas de gestão de SST deve, principalmente, à necessidade de afectação de recursos humanos e materiais, nomeadamente:

- Afectação do técnico responsável pela implementação do sistema e, eventualmente, despesas decorrentes da contratação de consultores;
- Afectação de meios materiais para a implementação do sistema (gabinete, hardware e software para o técnico, sala de reuniões…);
- Tempo dispendido pelo envolvimento pelos colaboradores que constituem a equipa de projecto e dos que colaboram no desenvolvimento da documentação;
- Investimento na formação dos recursos humanos, nomeadamente custo do tempo dispendido pelos formandos e pelo formador (se for interno).

Este investimento varia muito, de organização para organização, e dependem de vários factores, entre outros:

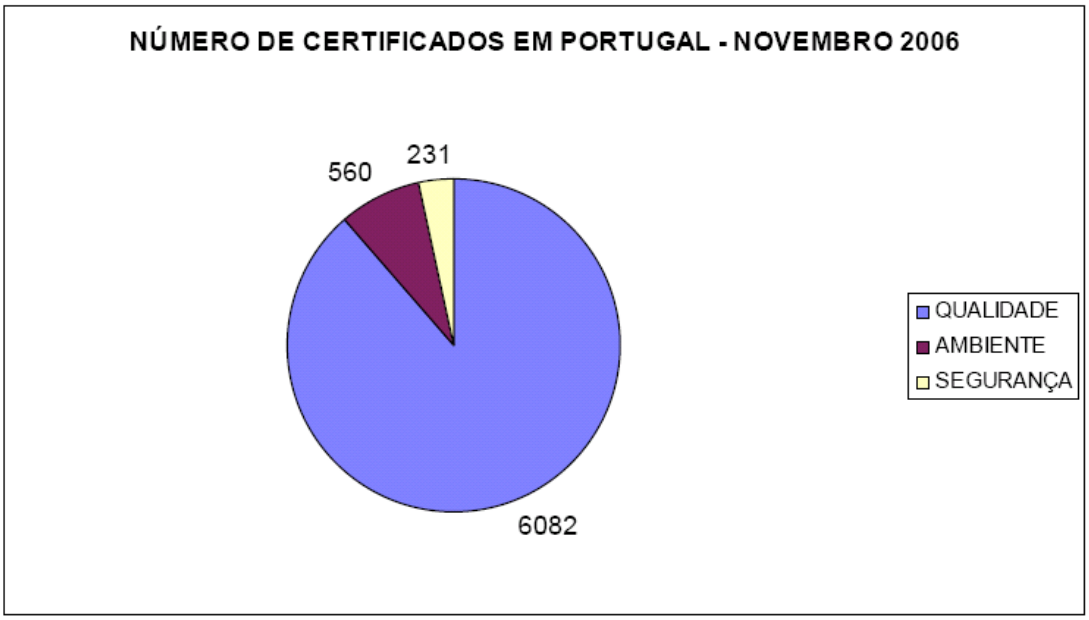
- Estado actual da organização em matérias de SST;
- Dimensão da organização
- Complexidade e nível de risco associado às actividades da organização;
- Competências internas de que a organização dispõe.

Usualmente, as organizações consideram como custos de implementação do sistema, os que resultam da implementação das acções correctivas e preventivas, resultantes da avaliação dos riscos e/ou do estudo de aplicabilidade de requisitos legais. Na verdade, estes custos não deviam ser associados ao investimento dos sistema porque as medidas para eliminar ou reduzir os riscos para um nível que a organização considere aceitável, ou para cumprir a legislação, teriam de ser implementados, com ou sem sistema. Estas despesas são investimento em SST e não custo do sistema.

Da pesquisa efectuada relativamente ao número de certificações em Portugal, segundo a norma OHSAS18001:1999, que se revelou bastante escassa apenas se encontrou a seguinte informação:

Referencial	SA 8000	ISO 14001	EMAS	OHSAS 18001	HACCP
N.º Certificações	1	243	14	54	21

Quadro 1 – Número de Certificações em Portugal – Dezembro 2003. (Fonte: Pinto, 2004),



Fonte: Organismos certificadores

Quadro 2 – Número de Certificados em Portugal – Novembro 2006. (Fonte - Qualiwork)

De acordo com o Quadro n.º 1 o número de certificações em 2003, segundo o referencial normativo OHSAS 18001:1999, era de 54 empresas, já em 2006, como refere o Quadro n.º 2, este valor passou para 231 empresas, isto significa um aumento em 3 anos de 428% de novas empresas com certificação segundo o referencial normativo. Este aumento representa em média um incremento de 143 % por ano.

1.1.2 Legislação Nacional e Comunitária e a OHSAS 18001

Segundo Sérgio Miguel, (2004) *"a função Higiene e Segurança ou, simplesmente, Prevenção é, essencialmente, uma função consultiva. O seu objectivo reside na informação, no aconselhamento, na motivação e na coordenação, remetendo para a hierarquia a direcção e execução das soluções a que se propõe.*

As medidas de segurança não devem solucionar problemas de forma não sistemática, isto é, à medida que surgem os acidentes (ou incidentes). Devem, pelo contrário, ser metodicamente programadas e integradas na gestão da empresa. Esta integração exigirá um elevado grau de organização da Segurança e Higiene da empresa com vista a uma metodologia de trabalho, consequente, sem intervenções ou correcções isoladas.

Segundo a Directiva 89/391/CEE de 12 de Junho, que deu origem ao DL 441/91 de 14 de Novembro, a entidade empregadora é obrigada a assegurar a segurança e a saúde dos trabalhadores em todos os aspectos relacionados com o trabalho. Tendo em vista o cumprimento deste objectivo, tomará as medidas necessárias com base nos seguintes princípios gerais de prevenção:

a) *Evitar os riscos;*
b) *Avaliar os riscos que não possam ser evitados;*
c) *Combater os riscos na origem;*
d) *Adaptar o trabalho ao homem, especialmente no que se refere à concepção dos postos de trabalho, bem como à escolha dos equipamentos de trabalho e dos métodos de trabalho e de produção, tendo em vista, nomeadamente, atenuar o trabalho monótono e o trabalho cadenciado e reduzir os efeitos destes sobre a saúde;*
e) *Ter em conta o estádio de evolução da técnica;*
f) *Substituir o que é perigoso pelo que é isento de perigo ou menos perigoso;*
g) *Planificar a Prevenção com um sistema coerente que integre a técnica, a organização do trabalho, as condições de trabalho, as relações sociais e a influência dos factores ambientais no trabalho;*
h) *Dar prioridade às medidas de protecção colectiva em relação às medidas de protecção individual;*
i) *Dar instruções adequadas aos trabalhadores. "*

São notórios os desenvolvimentos efectuados em matéria de sinistralidade laboral muito pela melhoria das condições de trabalho, mas fundamentalmente pela identificação de perigos e avaliação e controlo dos riscos. Os progressos registados terão, porventura mais a ver com a nossa integração europeia e à consequente transposição para o direito interno de um conjunto de diplomas legais, do que com a criação de uma efectiva cultura de segurança.

Segundo Corcoran (2002) citado por Sérgio Miguel, é imperiosa a criação de uma cultura de segurança nas empresas e organizações, pois essa será a forma mais eficaz de diminuir a sinistralidade e consequente os custos que lhe estão associados.

Maior segurança nos locais de trabalho implica, em geral, vantagens económicas para as empresas, sobretudo para as de pequena e média dimensão, uma vez que os acidentes de trabalho têm habitualmente repercussões financeiras significativas para as mesmas. O verdadeiro valor da avaliação económica reside no facto de esta influenciar as convicções dos responsáveis, motivo pelo qual se deve tornar numa tarefa conjunta de todos os responsáveis da empresa.

Segundo Peterson (2000) citado por Sérgio Miguel, na grande maioria das empresas, mas essencialmente nas de pequena dimensão, o controlo e a análise económica da sinistralidade não constitui uma variável de decisão da gestão não evidenciando os verdadeiros custos dos acidentes. A investigação levada a cabo neste domínio induziu alterações ao nível do comportamento dos gestores e administradores. Contudo, em muitas empresas o controlo das não conformidades continua a ser ainda o ponto central da gestão. Um dos objectivos deste estudo é contribuir para tornar a análise económica da sinistralidade uma ferramenta essencial para a gestão.

Capítulo II – METODOLOGIA

2. Utilidade científica e/ou prática

A utilidade científica e/ou prática desta tese será consolidar as vantagens da certificação numa empresa multinacional nomeadamente a respectiva contribuição na diminuição do número de acidentes de trabalho. Melhorar a eficiência e, consequentemente, reduzir acidentes e custos associados; aumentar o controlo dos perigos, reduzindo os riscos através da definição de objectivos, metas e responsabilidades; motivação dos colaboradores; aumentar a confiança de clientes, accionistas, comunidade e demais partes interessadas; consolidar uma estratégia de desenvolvimento sustentado; melhorar e encorajar uma efectiva comunicação interna e externa.

2.1. Tipos de Pesquisa

Nesta tese de Mestrado o tipo de pesquisa utilizado divide-se nos seguintes pontos:

2.1.1. Forma de Abordagem

O método de abordagem utilizado no desenvolvimento deste trabalho foi a pesquisa quantitativa. A recolha de informação dos casos em estudo nomeadamente a seguinte informação: a recolha da informação do histórico do número de acidentes de trabalho e respectivas causas, número de formações e respectivos temas na área da segurança e higiene no trabalho. Para o tratamento de dados serão usadas técnicas de medição designadamente estatísticas (percentagem, média …) para análise dos estudos e caso.

2.1.2. Natureza

Este trabalho foi uma Investigação aplicada de forma que a realização deste trabalho seja conduzido com vista à aquisição de conhecimentos sobre a comprovação das vantagens da certificação na área da segurança, higiene e saúde no trabalho.

2.1.3. Tempo

O tipo de pesquisa consistiu num estudo transversal, relativo ao tempo, compreendido de Janeiro de 2006 até Setembro 2009. Este tipo de estudo tem como vantagem ser mais rápido pois a informação é limitada ao momento temporal, é menos susceptível a variáveis estranhas e consequentemente consome poucos recursos.

2.1.4. Objectivos

Quanto aos objectivos a pesquisa será descritiva pois visa evidenciar as características das empresas em estudo, nomeadamente o histórico de acidentes, a data da certificação, os planos de formação, …), e as relações entre variáveis. Os factos serão identificados, registados, analisados, classificados e interpretados sem que sejam influenciados.

2.1.5. Procedimentos técnicos

O tipo de pesquisa será um estudo de caso que envolverá um estudo exaustivos de duas empresas de maneira a permitir o seu conhecimento profundo e detalhado. Será também realizada uma análise comparativa com outra empresa.

2.1.6. Tamanho/características da amostra

A amostragem desta dissertação final de Mestrado foi não probabilística por conveniência pois foram contactadas duas empresas que pertencem ao mesmo grupo multinacional. Este grupo multinacional encontra-se representada em vários países do mundo, como se pode visualizar no Quadro n.º 3. Do conjunto de 43 empresas, pertencentes ao grupo multinacional, implementadas nos vários continentes, foram seleccionadas duas empresas da Europa, nomeadamente das duas empresas implementadas em Portugal de forma a comprovar a pergunta de partida.

Região	N.º Empresas
Ásia	8
Europa	19
América do Norte	14
América do Sul	2
Total	**43**

Quadro 3 – Número total de empresas que pertencem ao mesmo grupo.

A recolha da informação de ambas as empresa foi através de pesquisa numa plataforma comum a todas as empresas que pertencem ao grupo multinacional acima referido.

Conforme já foi referido ambas as empresas pertencem a uma multinacional líder no mercado fornecedor da indústria automóvel, a qual, desenha, concebe e produz produtos inovadores nas áreas de interiores, climatização, electrónica e iluminação.

As empresas produzem amplificadores, airbags, painéis de instrumentos (“Cluster”), rádios, módulos de climatização, compressores para ar condicionado e componentes de plástico para o interior de veículos automóveis.

As duas empresas em estudo diferem uma da outra no seguinte aspecto: uma é certificada e a outra não é certificada. A empresa certificada obteve a certificação segundo o referencial normativo OHSAS 18001:1999 em 2006 e mais tarde adaptou-se à nova versão da norma OHSAS 18001:2007.

A empresa que não possui certificação na área de SHT formou uma aliança com o grupo da empresa certificada em 2003, ou seja, uma joint-venture, partilham o mesmo risco de negócio, investimentos, responsabilidades e os lucros. A razão para o estabelecimento deste tipo de aliança foi a existência de know-how complementar entre empresas.

Ambas as empresas devem obedecer obrigatoriamente a requisitos muito exigentes por parte dos clientes e do grupo multinacional nas áreas da qualidade, ambiente, segurança e higiene no trabalho.

Na área de segurança e higiene no trabalho do grupo multinacional, os requisitos são muito exigentes nesta área nomeadamente a implementação de procedimentos técnicos para a actividades de risco nomeadamente nos principais riscos inerentes à actividade, tais como: a entrada em espaços confinados, trabalhos em altura, corte e travamento das fontes de energia, processos ergonómicos, prevenção e combate de incêndios, comunicação de riscos, limpeza, iluminação, veículos industriais e transporte de materiais, equipamentos de protecção individual, emergência, ruído e conservação auditiva, equipamento suspenso, segurança nos robots, armazenamento, corte e soldadura. A empresa não certificada quando se junto a este grupo, inevitavelmente tiveram que se adaptar a esta realidade.

A empresa que obteve a certificação em 2006 segundo o referencial OHSAS 18001, para além de já ter implementado os requisitos estabelecidos pelo grupo multinacional, mais tarde com a decisão para a certificação, procedeu à implementação dos requisitos da norma OHSAS 18001. A razão pela qual se procedeu à certificação da OHSAS 18001 desta empresa deveu-se essencialmente à exigência da maioria dos clientes para manter a continuidade do negócio e o nível de competitividade.

O manual do sistema de gestão de Segurança e Higiene no Trabalho da empresa certificada, apresenta-se de seguida:

- PR-001 – Avaliação de Risco de Saúde e Segurança
- PR-002 – Revisão dos Projectos de Ambiente, Segurança e Saúde
- PR-003 – Projectos de Ambiente, Saúde e Segurança – Produtos Novos, Máquinas, Equipamentos e Processos
- PR-004 – Requisitos Legais e Outros
- PR-005 – Objectivos, Metas e Programas de AS&S
- PR-006 – Recursos, Atribuições, Responsabilidades e Autoridade
- PR-007 – Competências, Formação e Sensibilização de AS&S
- PR-008 – Comunicação
- PR-009 – Registo e Gestão da Documentação AS&S
- PR-010 – Preparação e Capacidade de Resposta a Emergências
- PR-011 – Medição e Monitorização de AS&S
- PR-012 – Incidentes e Não Conformidades, Acção Correctiva e Preventiva
- PR-013 – Visitas de AS&S aos Locais de Trabalho
- PR-014 – Auditorias Internas ao Sistema de Gestão de AS&S e Avaliação Da Conformidade
- PR-015 – Inspecções Técnicas
- PR-016 – Revisão da Gestão
- PR-017 – Controlo de Materiais Perigosos/Tóxicos
- PR-018 – Equipamento De Protecção Individual
- PR-019 – Investigação E Registo De Acidentes E Incidentes
- PR-020 – Estações De Segurança E Quadros Brancos De Informação
- PR-021 – Veículos Industriais
- PR-022 – Corte E Soldadura
- PR-023 – Sinalização E Etiquetas
- PR-024 – Corte e travamento das fontes de energia
- PR-025 – Emergência
- PR-026 – Espaços Confinados
- PR-027 – Contratantes
- PR-028 – Identificação De Riscos Pessoais Questionário / Análise
- PR-029 – Higiene Industrial

Com base na implementação destes procedimentos, anteriormente referidos, resultam no estabelecimento de objectivos, programas e metas para cada ano, cumprimento da legislação aplicável. Todo este ciclo irá originar melhoria em todo o sistema em busca da referida melhoria contínua (ciclo de PDCA).

Todas as empresas do grupo estão ligadas entre si, através da Intranet, na qual se relata todo o tipo de informação incluindo na área de segurança e higiene no trabalho. Para esta tese de mestrado a análise consistiu numa pesquisa intensiva em todas as empresas do grupo.

2.1.7. Instrumentos

Os instrumentos de análise utilizados serão várias grelhas de análise que foram concebidas para recolher o conjunto de informação necessária através da plataforma comum onde cada empresa reporta toda a informação, nomeadamente número de acidentes com dias perdidos, número total de acidentes/incidentes, número de dias perdidos, número de horas trabalhadas, causas dos acidentes e respectivas acções correctivas, número de formações entre outros, conforme se pode visualizar nos respectivos Apêndices.

Ambas as empresas utilizam Indicadores estatísticos que facilitam a avaliação da qualidade da segurança e o tipo de medidas a tomar numa empresa, permitindo acompanhar a evolução com a do sector ou indústrias similares. Para tanto é essencial que as estatísticas sejam fiáveis, ou seja, que os empregadores notifiquem todas as lesões registadas, ainda que de menor impacte físico. Veremos de seguida no próximo pontos o cálculo dos índices estatísticos de sinistralidade

2.1.7.1. Índices Estatísticos

Os índices estatísticos mais utilizados são os de frequência e gravidade, os quais reflectem a extensão e probabilidade do risco, bem como a severidade do dano.

Índice de frequência

Este indicador expressa o número de acidentes ocorridos por cada milhão de horas trabalhadas; ao calcular as horas trabalhadas em vez do número de trabalhadores, evita as distorções causadas no índice de incidência por trabalhadores a tempo parcial, dias de trabalho incompletos ou com trabalho suplementar.

Que é calculado através da expressão:

$$I_f = \frac{\text{n.º de acidentes ITA} \times 10^6}{\text{n.º de horas-homem trabalhadas}}$$

Equação 1

O índice de frequência pode ser calculado por reporte a qualquer período de tempo. A análise da evolução deste indicador possibilita a avaliação da eficácia do investimento feito na prevenção.

Índice de gravidade

Este indicador representa o número de dias úteis perdidos por cada milhão de horas-homem trabalhadas.

O índice de gravidade é calculado através da expressão:

$$I_g = \frac{\text{n.º de dias úteis perdidos x } 10^6}{\text{n.º de horas-homem trabalhadas}}$$

Equação 2

O número total de dias perdidos corresponde ao somatório dos dias de trabalho perdidos referentes aos acidentes ocorridos nesse ano e aos dias de trabalho perdidos ocorridos no mesmo ano, em consequência dos acidentes de trabalho ocorridos em anos anteriores.

Segundo Freitas (2008), o cálculo dos indicadores referidos deve ser feito mensalmente, com controlo trimestral, de forma a fornecer os dados básicos com vista à análise da sinistralidade laboral, a qual terá de ser articulada com os demais factores inerentes à ocorrência de acidentes.

2.1.8. Procedimento de recolha de dados

A recolha de dados das duas empresas foi obtida através de e-mail e telefone de forma a obter os dados para a análise comparativa. A maioria dos dados foram também adquiridos através de uma exaustiva pesquisa na plataforma comum às duas empresas onde estas reportam os dados de Segurança e Higiene no Trabalho mensalmente.

2.1.9. Tratamento de dados

Conforme já foi referido anteriormente, na forma de abordagem, o tratamento de dados foi feito através de métodos estatísticos de forma a comparar uma empresa certificada com uma empresa não certificada.

De seguida apresentam-se os resultados do tratamento de dados em gráficos e respectivos comentários:

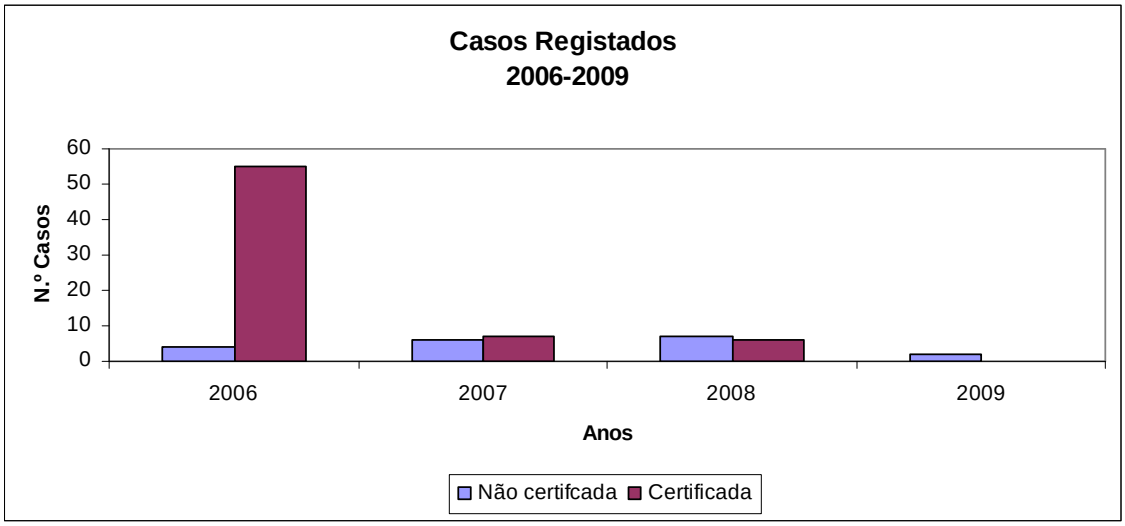


Gráfico 1 – Casos registados de acidentes e incidentes entre 2006 e Setembro de 2009.

Conforme se visualiza no Gráfico 1, a empresa certificada apresenta claramente uma diminuição do número de acidentes ao longo dos anos (de 2006 a Setembro 2009) enquanto que a empresa não certificada verifica uma ligeira oscilação dos casos registados, não sendo evidente a sua diminuição.

De acordo com o Gráfico 2, só a empresa não certificada apresenta casos com dias perdidos, sendo o ano 2008 com maior número de casos com dias perdidos. Comparando o Gráfico 1 com o Gráfico 2 verifica-se que nem todos os casos registados tiveram dias perdidos e também se constata que a empresa certificada embora tivesse alguns casos registados nenhum deles se obteve dias perdidos.

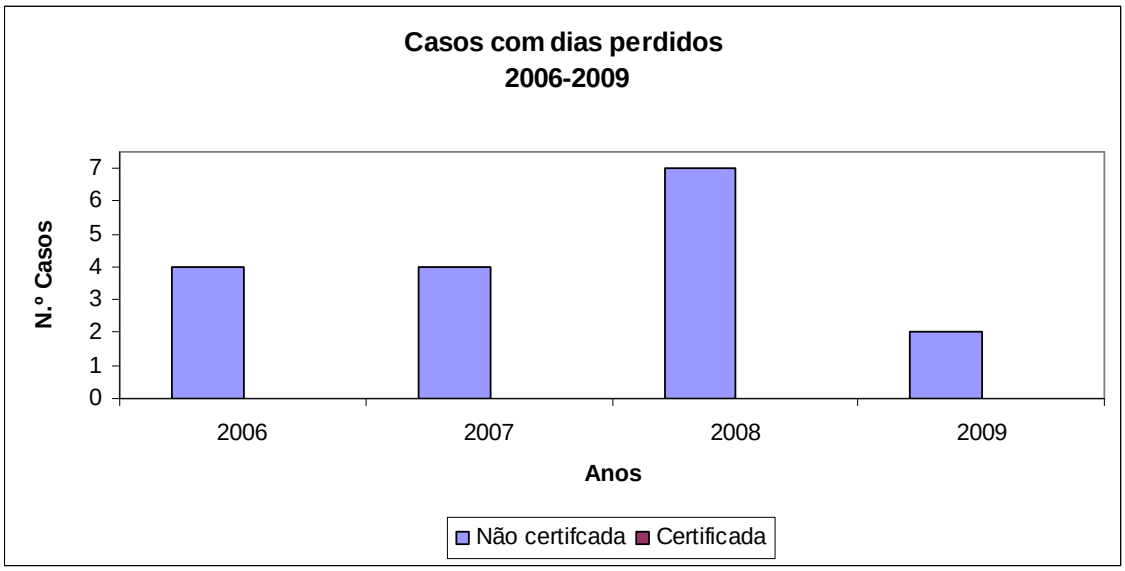


Gráfico 2 – Casos com dias perdidos entre 2006 e Setembro de 2009.

Segundo o Gráfico 3, o ano de 2008 para a empresa não certificada foi o ano com mais acidentes com dias perdidos. A empresa certificada apresenta durante o tempo de análise, zero dias perdidos.

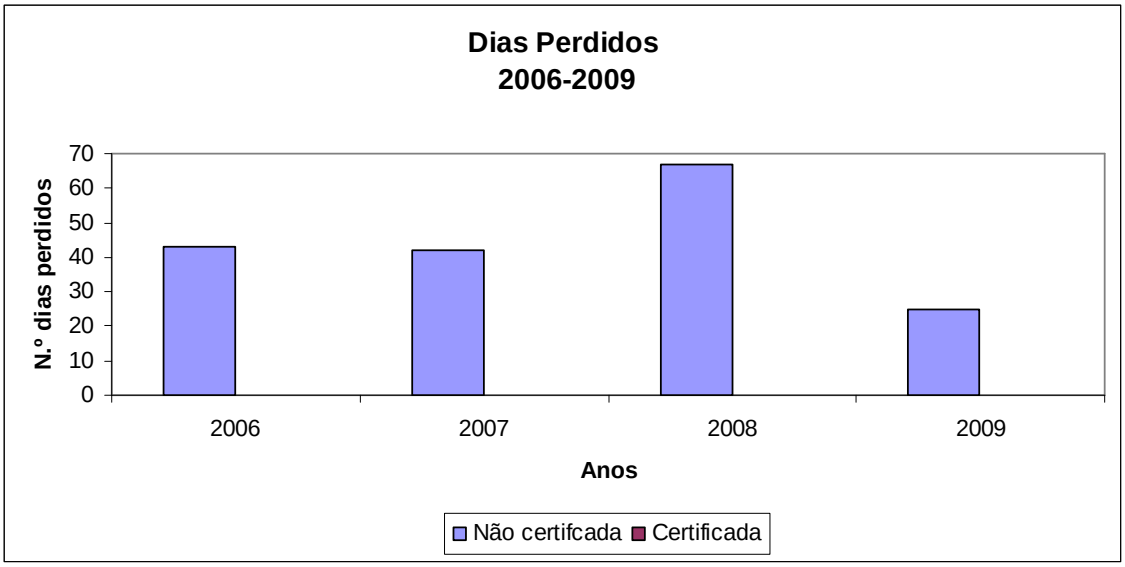


Gráfico 3 – Dias perdidos entre 2006 e Setembro 2009.

No Gráfico 4, é evidente que a empresa não certificada apresenta um elevado índice de frequência durante o ano de 2008 devido ao elevado número de acidentes com dias perdidos. Na empresa certificada como não ocorreram acidentes, o seu índice de frequência é nulo.

Este indicador revela que a empresa não certificada possivelmente não investiu muito na prevenção nesse ano.

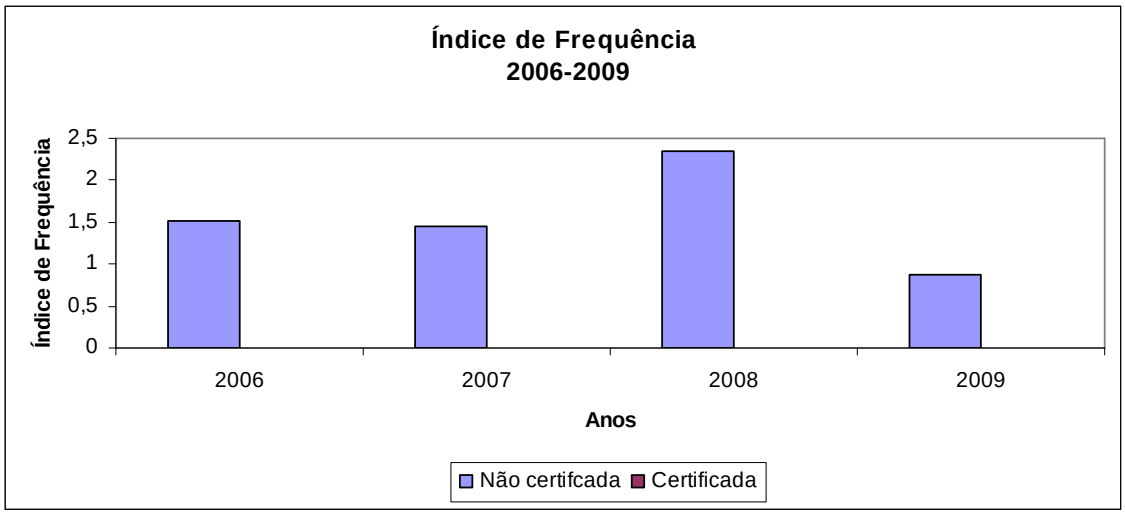


Gráfico 4 – Índice de frequência entre 2006 e Setembro de 2009.

No Gráfico 5, constata-se que 2008 foi o ano com maior índice de gravidade na empresa não certificada.

A empresa certificada conforme os gráficos anteriores apresenta também um índice de gravidade igual a zero, ao longo dos vários anos em análise.

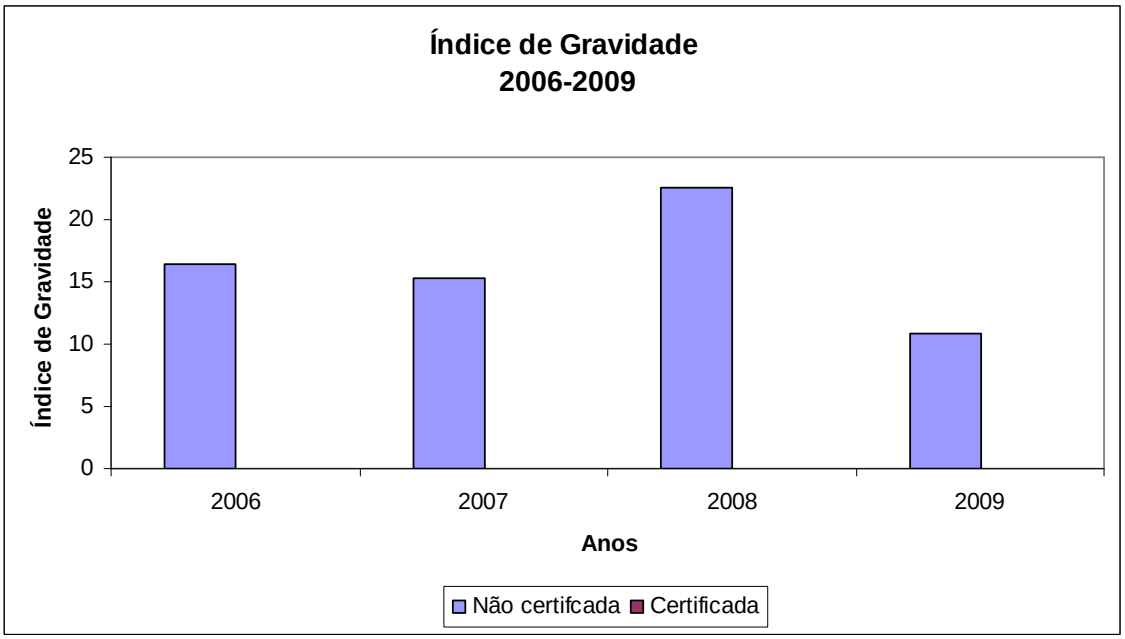


Gráfico 5 – Índice de gravidade entre 2006 e Setembro de 2009.

De acordo com o gráfico 6, a empresa certificada apresenta mais horas trabalhadas que a outra empresa em estudo. A empresa certificada obteve em 2007 um maior número de horas trabalhadas enquanto que a outra empresa não certificada foi em 2008.

Nota-se que, a empresa certificada apresenta cinco vezes mais horas trabalhadas que a empresa não certificada.

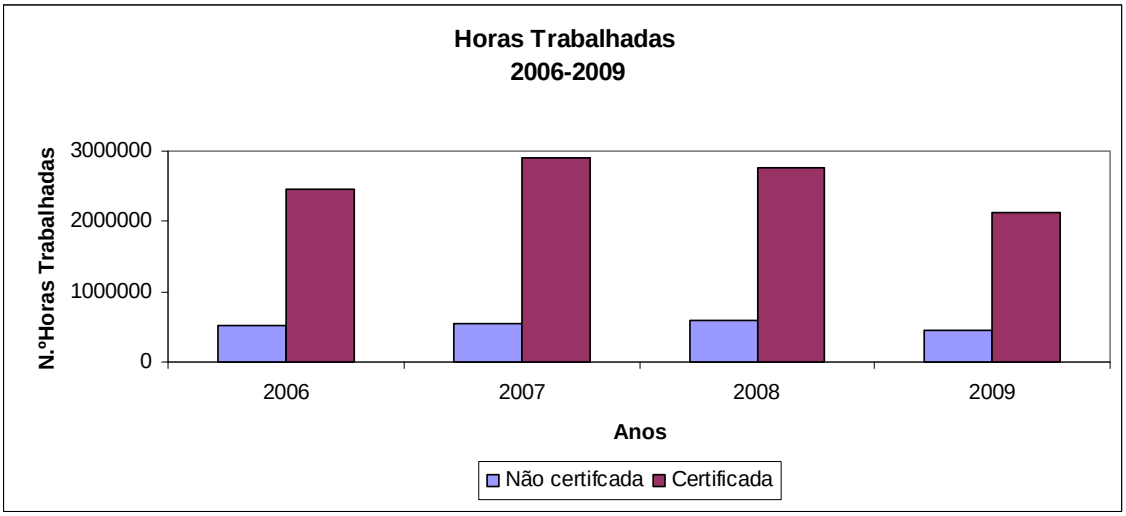


Gráfico 6 – Número de horas trabalhadas entre 2006 e Setembro de 2009.

2.1.9.1. Evolução do tipo de acidentes ao longo do tempo

Enquanto que na empresa certificada não se registou acidentes, a empresa não certificada registou acidentes ao longo do tempo em estudo. Conforme se visualiza no Gráfico 7, foram várias as causas dos acidentes ao longo dos três anos em estudo:

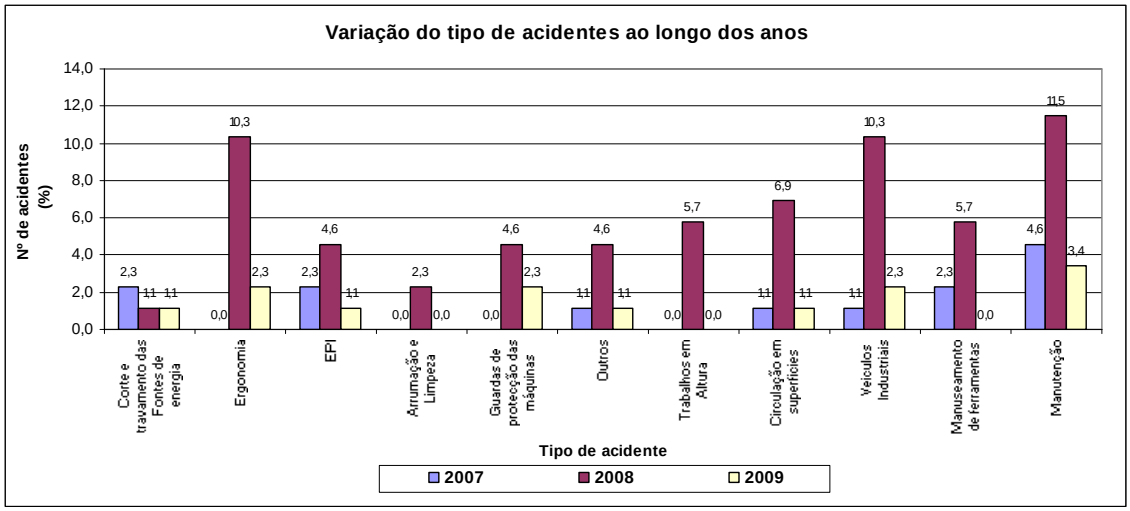


Gráfico 7 – Variação do tipo de acidentes ao longo dos anos.

No caso de incidentes/acidentes em que a causa do acidente foi a falha no corte e travamento das fontes de energia em que originou: amputações e contusões. Neste caso as acções correctivas passaram por efectuar reciclagem da formação do procedimento de corte e travamento das fontes de energia; instalação de guardas de segurança em linha de modo a que sempre que seja necessário entrar dentro de equipamentos com partes móveis seja feito automaticamente o corte e travamento das fontes de energia e não atingir o trabalhador; formação como operar os equipamentos em segurança; colocação de instruções de segurança nos equipamentos e identificação de locais semelhantes ao do incidente/acidente.

No caso dos incidentes em que a causa foram motivos ergonómicos originou nos trabalhadores tendinites e maus jeitos devido a más posturas. No caso das tendinites os factores que contribuíram foram: imprópria posição para realizar tarefas; ausência/falhas dos planos de rotação dos postos de trabalho; elevada produção; não cumprimento das restrições médicas dos trabalhadores na colocação nos postos de trabalho. Nos maus jeitos devido a más posturas resultaram devido a manuseamento de cargas pesadas. As acções correctivas/preventivas foram: implementação da ginástica laboral; formação sobre como manusear correctamente ferramentas de trabalho; identificação de locais semelhantes ao do incidente e respectiva implementação de semelhantes acções; maior controlo dos planos de rotação; avaliação pelo departamento médico, as pessoas que apresentam queixas devido a más posturas ergonómicas; recolocação dos trabalhadores em novos postos trabalhos para os quais não possuam restrições médicas; implementação de conversas de segurança dos supervisores de produção com os trabalhadores de forma a encontrar oportunidades de melhoria nos diversos locais de trabalho; eliminação de tarefas manuais; ajustes em altura de bancadas de trabalho e seguir os procedimentos de segurança/ergonómicos quando as tarefas necessitam de ser realizadas com maior rapidez.

Quando a causa dos acidentes/incidentes é o não uso de equipamentos de protecção individual, os trabalhadores sofreram queimaduras; ferimentos devido a corte; contusões e também lesões oculares. As acções correctivas foram: o uso obrigatório dos diversos tipos de EPIs; implementação de medidas de protecção colectivas; colocação de alertas de segurança nos diversos postos de trabalho; formação; processos disciplinares após formações e não cumprimento do uso do equipamento de protecção individual.

Relativamente aos acidentes em que as falhas são a arrumação e limpeza, a consequência nos trabalhadores foram essencialmente contusões. As acções correctivas foram: reforço da arrumação e limpeza em cada turno; colocação de bacias de contenção e verificação periódica; reforço da atenção para os locais mais escorregadios devido a presença de óleo; o encontro de soluções para eliminar a saída de óleo de corte dos diversos equipamentos.

As falhas devido às guardas de protecção das máquinas tiveram como consequência: fracturas e também amputações. As principais causas foram: ausência/inadequadas guardas de protecção; falta de atenção; violação das regras de segurança; incorrecta colocação das mãos e mau funcionamento das guardas de protecção. As acções correctivas passaram por colocação das respectivas guardas de protecção e verificar locais de trabalho semelhantes; botões de segurança para as duas mãos e colocação de acrílicos de protecção; sensibilizações aos trabalhadores; formação aos trabalhadores quando realizam uma nova tarefa num posto de trabalho diferente; processos disciplinares para os casos de não cumprimento de regras de segurança; revisão das análises de risco e procedimentos de segurança; auditorias diárias de verificação do cumprimento; colocação de sinais de segurança nos equipamentos; sensibilização para comunicação imediata quando situações inseguras são detectadas e sensibilização dos operadores de manutenção da importância da não remoção das guardas de protecção.

Os trabalhos em altura tiveram como consequência diversas fracturas. As causas foram: a realização de um trabalho inseguro; queda de escadas; queda do telhado; falta de protecção em equipamento que originou queda. As acções correctivas neste tipo de acidentes/incidentes foram: a formação; acção disciplinar; revisão dos procedimentos de trabalho em altura e fixação de escadas.

Os acidentes/incidentes resultantes da circulação em superfícies, as causas foram as seguintes: a deficiente arrumação e limpeza; falta de atenção; gelo no pavimento (condições atmosféricas); não utilização das vias de circulação para pessoas; óleo no pavimento e falta de visibilidade. As acções correctivas foram: reforço da arrumação e limpeza; sensibilização sobre o acidente; reforço da formação de vias de circulação de peões e veículos industriais e visitas de inspecção de segurança; eliminar fugas de óleo dos equipamentos e acções disciplinares para comportamentos inseguros.

No caso de acidentes com veículos industriais, as causas foram: o não cumprimento do procedimento de veículos industriais a 100%; o desrespeito das vias de circulação dos peões por parte do condutor; a falta de atenção; a condução insegura; o layout; a falta de manutenção do veículo; a falta de arrumação; a falta de uso dos EPIs e gelo na superfície. As acções correctivas foram: a reciclagem na formação para condutores de veículos industriais; a não movimentação de pessoas nas áreas de circulação dos peões; acções disciplinares para comportamentos inseguros; corrigir corredores de circulação para peões; o uso de EPI na condução de veículos industriais; a paragem do veiculo até resolução das deficiência; o reforço da limpeza das superfícies nomeadamente no inverno (o piso escorregadio) e a proibição da circulação de pessoas nas áreas de carga e descarga.

Os acidentes/incidentes resultantes do manuseamento de manual de materiais, as causas foram: a falta de atenção do operador; o manuseamento incorrecto de ferramentas e o design desadequado as acções correctivas implementadas foram definição de novo design; a revisão das avaliações de risco; a colocação de instruções de segurança e a reciclagem de formação sobre manuseamento de materiais.

Os acidentes que resultaram da manutenção de equipamentos, as causas foram o impróprio método de trabalho; a falta de manutenção e a falta de atenção. As acções correctivas que se seguiram foram: a implementação de conversas de segurança antes do inicio de cada turno para reforçar as boas práticas de segurança e a formação sobre riscos na manutenção; formalizar um procedimento para mudança de moldes nas máquinas de injecção; a revisão das avaliações de riscos; alterar o plano de manutenção dos equipamentos. As consequências para os operadores foram as contusões, fracturas e amputações.

Também ocorreram outros tipos de acidentes em que as causas foram apenas o desrespeito das regras de segurança e a falta de atenção. As acções correctivas foram a formação e a realização de avaliações de risco a locais de trabalho que não tinham sido elaboradas.

2.1.9.2. Formações em SHT

As formações administradas em ambas em empresas desde 2006 até Setembro de 2009 foram diminuindo gradualmente ao longo do tempo, Quadro n.º 4. É de salientar que a empresa certificada apresenta em geral, sempre, um maior número de formações que a outra empresa, com maior evidência, no ano da certificação e anos subsequentes.

	Empresa Certificada	**Empresa Não Certificada**
2006	9	2
2007	9	1
2008	8	4
2009	7	2

Quadro 4 – Número de Formações na área SHT de 2006 a Setembro 2009.

Capítulo III – ANÁLISE DE DADOS OBTIDOS E DISCUSSÃO

De acordo com os dados obtidos a resposta à pergunta de partida:

"Qual a Melhoria da Segurança e Higiene no Trabalho verificada numa empresa após a certificação segundo a norma OHSAS 18001?

Segundo os diversos autores abordados, nesta tese, a melhoria da Segurança e Higiene no Trabalho, na revisão da literatura, as vantagens numa empresa após a certificação segundo a norma OHSAS 18001 são:

- (…) Permitir à organização desenvolver e implementar uma política e objectivos, tendo em consideração requisitos legais e informação sobre riscos para a SST.
- Evidenciar o funcionamento do sistema de higiene e segurança da sua empresa;
- Eliminar/minimizar os riscos de acidentes, garantindo a protecção dos colaboradores da empresa, com consequente redução dos riscos laborais;
- Adopção por parte da organização e colaboradores de boas práticas de Higiene Segurança e Saúde no Trabalho;
- Cumprir os requisitos legais, contratuais, sociais e financeiros de segurança e higiene no trabalho;
- Melhorar a eficiência e, consequentemente, reduzir acidentes e custos associados;
- Aumentar o controlo dos perigos, reduzindo os riscos através da definição de objectivos, metas e responsabilidades;
- Motivação dos colaboradores;
- Aumentar a confiança de clientes, accionistas, comunidade e demais partes interessadas;
- Reduzir prémios de seguro;
- Consolidar uma estratégia de desenvolvimento sustentado;
- Melhorar e encorajar uma efectiva comunicação interna e externa.
- Definição de prioridades (um SGSST pode definir prioridades no planeamento na organização, no controlo, na monitorização e na revisão das medidas para proteger as pessoas dos riscos do trabalho);
- Ajuda na integração de sistemas (a estrutura de um SGSST é semelhante à de um sistema de gestão da qualidade ou de gestão ambiental);

- Melhoria Continua (a Organização poderá melhorar áreas que não estão a funcionar de forma eficiente ou eficaz, através de revisões e de auditorias para identificar, sistematicamente, as oportunidades de melhoria);
- Sustentabilidade (um SGSST estabelece necessidades e incentivos para se auto-sustentar, incorporando as exigências para a melhoria contínua);
- Preparação de emergência (os SGSST devem assegurar que estão disponíveis os recursos adequados para responder a cenários de emergência).

De acordo com os pontos apresentados anteriormente, todos os autores mencionados ao longo desta tese de mestrado convergem para as mesmas vantagens na certificação segundo o referencial normativo OHSAS 18001.

Na empresa certificada é evidente uma maior organização a nível de segurança e saúde no trabalho, de acordo com o manual da empresa apresentada no capítulo anterior, verifica-se uma definição clara em várias áreas, nomeadamente: implementação da politica e objectivos tendo em conta os requisitos legais; preparação da emergência; definição de prioridades no planeamento da organização, no controlo, na monitorização e na revisão das medidas para proteger as pessoas dos riscos do trabalho.

A empresa certificada teve a necessidade de implementar o sistema de gestão de SST de forma a aumentar a confiança de um grande cliente de negócio.

A melhoria contínua evidencia-se na empresa certificada nomeadamente ao nível da eficiência através de auditorias e inspecções de SST o que, consequentemente, contribuiu para reduzir os acidentes, tal como os diversos autores prevêem. Assim sendo, através dos Gráficos 1,2,3,4 e 5, verifica-se que a empresa certificada não apresenta acidentes com dias perdidos e os casos registados têm vindo a diminuir bastante ao longo dos anos. Tendo em conta que a empresa certificada, no período de tempo em que o estudo foi efectuado, apresenta cinco vezes mais horas trabalhadas que a outra empresa não certificada. Caso a empresa não se tivesse certificado, era espectável que tivesse muitos mais acidentes que a outra empresa. Em nosso entender, pelo facto da empresa ter-se certificado segundo as OHSAS 18001:1999, não só teve menos acidentes que a empresa não certificada, como também o número de acidentes foram baixando ao longo dos anos a que se reporta o estudo.

Relativamente à formação administrada ao longo dos anos é evidente na empresa certificada existir um maior investimento nesta área, devido à exigência da norma OHSAS 18001 para as competências e formação. A empresa não certificada após a investigação dos vários acidentes e incidentes, muitas das acções preventivas indicadas foram as diversas formações nas áreas de SHT, onde se verifica um aumento do número de formações.

Alguns pontos apresentados como vantagens não se conseguiram comprovar por informação que não foi disponibilizada, no entanto prevê-se com a certificação nesta área se atinja por exemplo a redução do prémio de seguro, uma vez que com a diminuição dos acidentes, o controlo de todos os cenários de emergência se possibilite essa redução.

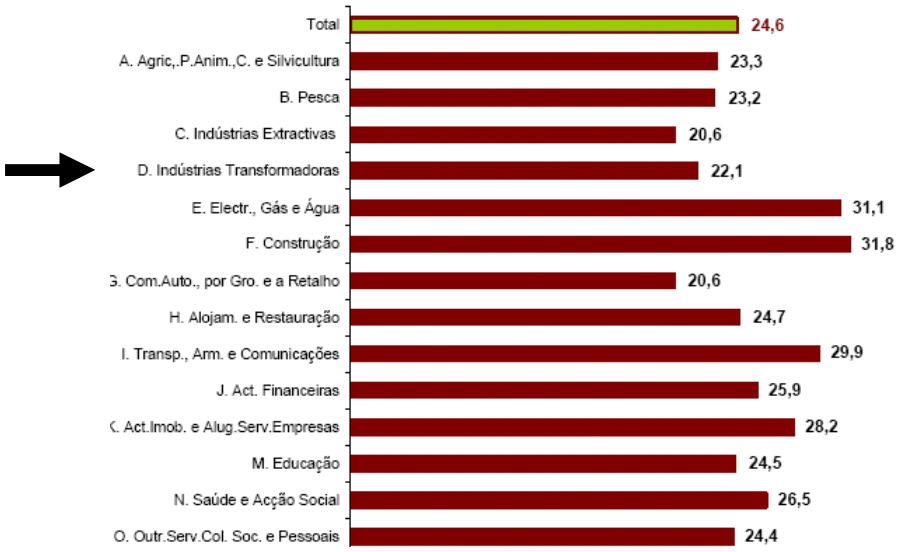
Segundo Freitas (2008), os índices facilitam a avaliação da qualidade da segurança e o tipo de medidas a tomar numa empresa, permitindo acompanhar a evolução com a do sector ou indústrias similares. Apresenta-se de seguida dois quadros com o resumo de dias perdidos das indústrias de diversos sectores.

O quadro abaixo é referente ao ano 2006:

		Acidentes não mortais com dias de ausência	Dias de trabalho perdidos	Nº médio de dias de trabalho perdidos por acidente com ausência
D.	Indústrias transformadoras	54 000	2 027 332	37,5
DA.	Ind. alimentares, das bebidas e do tabaco	6 383	261 153	40,9
DB.	Indústria textil	4 467	171 897	38,5
DC.	Ind. do couro e produtos do couro	1 566	55 083	35,2
DD.	Ind. da madeira e da cortiça e suas obras	4 950	202 231	40,9
DE.	Ind. de pasta, de papel e cartão: edição e impressão	1 676	78 171	46,6
DF.	Fab. coque, prod. petrolíferos refin. e combustível nuclear	14	962	68,7
DG.	Fab. prod. químicos, fibras sintéticas ou artificiais	780	32 280	41,4
DH.	Fab. artigos de borracha e matérias plásticas	2 036	74 277	36,5
DI.	Fab. outros produtos minerais não metálicos	5 476	190 922	34,9
DJ.	Ind. metalúrgica de base e de produtos metálicos	11 792	424 506	36,0
DK.	Fab. máquinas e equipamento	4 416	146 449	33,2
DL.	Fab. equipamento eléctrico e óptica	1 499	56 831	37,9
DM.	Fab. material de transporte	2 856	99 029	34,7
DN	Ind. transformadoras, n.e.	6 089	233 541	38,4

Quadro 5 – Acidentes de trabalho não mortais e dias de trabalho perdidos nas indústrias transformadoras 2006. (Fonte: Balanço social 2006).

E o quadro abaixo é referente ao ano de 2007:



Quadro 6 – Número médio de dias de trabalho perdidos por acidente de trabalho com baixa segundo a actividade económica 2007 (Fonte: Balanço Social 2007).

No estudo efectuado, o caso da empresa não certificada, em 2006 apresentou 43 dias perdidos e em 2007, 42 dias perdidos. Esta empresa manteve-se durante estes dois anos de análise sempre acima dos valores médios da indústria transformadora, sector no qual se insere. Esta empresa tem o nível de qualidade de segurança muito baixo e uma perspectiva muito lenta de melhoria de um ano para o outro. Por indisponibilidade de informação não poderemos analisar os restantes anos até Setembro de 2009.

De acordo com a pergunta de partida e os objectivos estabelecidos, nesta tese de mestrado foram confirmados, nomeadamente a evidente contribuição da certificação segundo a OHSAS 18001 para a diminuição do número de acidentes.

O contributo desta tese de mestrado poderá não ser só para nível académico mas também para o nível industrial, ou seja, as industrias poderão por aqui verificar que a implementação de um Sistema de Gestão de Segurança e Higiene no Trabalho tem as suas vantagens.

CONCLUSÃO

Conclui-se que a implementação do sistema de gestão de segurança e saúde no trabalho com base na norma OHSAS 18001, implica bons resultados para a organização. Esta norma tem como vantagem o foco na melhoria contínua, a direcção da organização para a satisfação dos clientes, a orientação da organização à óptica da gestão por processos e a compatibilidade entre si. A grande concorrência entre as empresas leva à valorização dos diferenciais de competitividade nas organizações. Nesta conjuntura, o importante é que as organizações possam encontrar, nas normas de gestão, uma oportunidade para um crescimento organizado, possibilitando uma melhor adequação às actuais exigências do mercado, uma vez que, num mundo cada vez mais competitivo, e crescente o número de organizações que implementam diferentes sistemas de gestão para atender aos objectivos específicos relacionados com as exigências do mercado consumidor.

Observa-se que a implantação de um Sistema de Gestão de Segurança e Saúde é uma tarefa complexa, especialmente quando se deve adequar uma gestão de segurança e saúde baseada só no cumprimento da legislação aos elementos da Norma OHSAS18001, como foi o caso da empresa certificada abordada nesta tese de mestrado.

Os índices de sinistralidade permitem uma avaliação de desempenho que mostra tendências e dá sinais do que precisa ser corrigido e melhorado. No entanto, a mobilização do capital humano e de recursos de informação é fundamental para o sucesso do SGSST.

Nos casos de estudo, mais propriamente o Sistema de Gestão de Segurança e Saúde no Trabalho, da empresa certificada procura a melhoria contínua do desempenho em SST para promover melhor qualidade de vida aos seus trabalhadores, bem como melhorar os padrões de qualidade e produtividade dos seus processos. As acções oriundas da implementação da OHSAS18001 contribuíram evidentemente para a redução dos acidentes de trabalho, mantendo cinco vezes mais horas trabalhadas que a empresa não certificada.

Segundo a legislação nacional, esta não impõe, formalmente, às empresas a obrigatoriedade de ter uma prevenção integrada nem uma política escrita no domínio da SHST, com a fixação dos objectivos a atingir, um planeamento e orçamentos específicos e o consequente comprometimento das administrações (embora a legislação considere o administrador o primeiro responsável pela SHST na organização). Daí que a generalidade dos empregadores não adopte, nesta matéria, uma questão orientada por uma lógica de custos e resultados, encarando-a antes como um custo que é necessário minimizar, privilegiando como objectivo único o mero cumprimento (mínimo) dos requisitos legais, como é o caso da empresa não certificada. Da análise dos acidentes desta empresa encontram-se diversas lacunas na área de segurança resumidamente, falta de formação, planos de rotação, sinalização, manutenção, identificação e avaliação de riscos, equipamento de protecção individual, elevada produção, entre outros. Comparando com a outra empresa certificada devido à implementação do SGSST segundo a norma OHSAS 18001 estas lacunas não existem devido ao cumprimentos dos requisitos da norma.

Pode-se concluir que a implantação do SGSST tende a melhorar o desempenho de SST, conforme a pergunta de partida e objectivos estabelecidos, pois todas as acções são planeadas levando em consideração a identificação de perigos e riscos e desta forma a contribuição para a diminuição do número de acidentes ao longo do tempo.

Esta tese de mestrado obteve um balanço positivo face aos resultados obtidos, visto que foram de encontro aos objectivos. O contributo desta tese de mestrado poderá não ser só a nível académico mas também a nível industrial, ou seja, as industrias poderão verificar que a implementação de um Sistema de Gestão de Segurança e Higiene no Trabalho segundo a norma OHSAS 18001 tem as suas vantagens.

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Apêndices I

	2006		2007		2008		2009	
	Não Cert.	**Cert.**	**Não Cert.**	**Cert.**	**Não Cert.**	**Cert.**	**Não Cert.**	**Cert.**
Casos com dias Perdidos	4	0	4	0	7	0	2	0
Índice de Frequência	1.52	0	1.46	0	2.35	0	0,87	0
Índice de gravidade	16,38	0	15,29	0	22,52	0	10,9	0
Dias Perdidos	43	0	42	0	67	0	25	0
Casos Registados	4	55	6	7	7	6	2	0
Horas trabalhadas	524957	2451746	549314	2894063,5	595142	2771717	458844	2119707

Quadro 7 – Quadro Resumo dos índices de sinistralidade de 2006 a Setembro 2009.

Apêndices II

	Corte e travamento das Fontes de energia	Ergonomia	EPI	Arrumação e Limpeza	Guardas de protecção das máquinas	Outros	Trabalhos em Altura	Circulação em superfícies	Veículos Industriais	Manuseamento de ferramentas	Manutenção	Total
2006	1,1	10,3	4,6	2,3	4,6	4,6	5,7	6,9	10,3	5,7	11,5	68
2007	2,3	0,0	2,3	0,0	0,0	1,1	0,0	1,1	1,1	2,3	4,6	15
2008	1,1	2,3	1,1	0,0	2,3	1,1	0,0	1,1	2,3	0,0	3,4	15
2009	0	0	0		0	0	0	0	1,1	0	1,1	2

Quadro 8 – Percentagem de acidentes.

	Corte e travamento das Fontes de energia	Ergonomia	EPI	Arrumação e Limpeza	Guardas de protecção das máquinas	Outros	Trabalhos em Altura	Circulação em superfícies	Veículos Industriais	Manuseamento de ferramentas	Manutenção	Total
2006	1	9	4	2	4	4	5	6	9	5	10	59
2007	2	0	2	0	0	1	0	1	1	2	4	13
2008	1	2	1	0	2	1	0	1	2	0	3	13
2009	0	0	0	0	0	0	0	0	1	0	1	2
Total	4	11	7	2	6	6	5	8	13	7	18	87

Quadro 9 – Número total de acidentes.

	Corte e travamento das Fontes de energia	Ergonomia	EPI	Arrumação e Limpeza	Guardas de protecção das máquinas	Outros	Trabalhos em Altura	Circulação em superfícies	Veículos Industriais	Manuseamento de ferramentas	Manutenção	Total
2006	1	8	4	2	4	4	4	6	8	5	9	55
2007	0	0	1	0	0	1	0	1	1	1	2	7
2008	0	1	0	0	0	1	0	1	1	0	2	6
2009	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	9	5	2	4	6	4	8	10	6	13	68

Quadro 10 – Número total de acidentes e incidentes da empresa certificada.

	Corte e travamento das Fontes de energia	Ergonomia	EPI	Arrumação e Limpeza	Guardas de protecção das máquinas	Outros	Trabalhos em Altura	Circulação em superfícies	Veículos Industriais	Manuseamento de ferramentas	Manutenção	Total
2006	0	1	0	0	0	0	1	0	1	0	1	4
2007	1	0	1	0	0	0	0	0	1	1	2	6
2008	1	1	1	0	2	0	0	0	1	0	1	7
2009	0	0	0	0	0	0	0	0	1	0	1	2
Total	2	2	2	0	2	0	1	0	4	1	5	19

Quadro 11 – Número total de acidentes e incidentes da empresa não certificada.

Apêndices III

Listagem de Cursos Formação SHST	
CURSO - MODULO	**ANO**
Plano de Evacuação	2006
Formação Básica	2006
Formação Básica	2007
Brigada de Resposta à Emergência	2008
Ergonomics - Refresher Training	2008
Reciclagem de Veículos Industriais	2008
Segurança & Movimentação de Cargas / Ponte Volante	2008
Corte e travamento das Fontes de Energia	2009
Reciclagem de Veículos Industriais	2009

Quadro 12 – Formações em SHT da empresa não certificada 2006 – Setembro 2009.

Listagem de Cursos Formação SHST	
CURSO - MODULO	**ANO**
Apresentação do Sistema Integrado do Ambiente, Saúde e Segurança	2006
Formação Básica – Ergonomia	2006
Formação Básica – GRASP	2006
Formação da Brigada de Resposta a Emergência	2006
Formação de Pórticos	2006
Formação de Veículos Industriais	2006
Formação de Veículos Industriais – Reciclagem	2006
Corte e travamento das Fontes de Energia	2006
Safety Talks	2006
Formação da Brigada de Resposta a Emergência	2007
Formação de "Óculos de Protecção"	2007
Formação de Pórticos e Cargas Suspensas	2007
Formação de Veículos Industriais	2007
Formação de Veículos Industriais – Reciclagem	2007
Manuseamento de Matérias Perigosas	2007
Reciclagem de Corte e travamento das Fontes de Energia	2007
Plano de Evacuação – Coordenadores de Evacuação	2007
Reciclagem de Corte e travamento das Fontes de Energia	2007
Brigada de Resposta à Emergência – Parte Prática	2008
Ergonomics – Refresher Training	2008
Formação Básica	2008
GRASP	2008
Operação de Veículos Industriais classes ABCE	2008
Corte e travamento das Fontes de Energia	2008
Segurança contra Incêndios	2008
Veículos Industriais e Transportes de Mercadorias	2008
Comando de Motores/ Higiene e Segurança no Trabalho/ Electricidade	2009
Comando de Motores/ Higiene e Segurança no Trabalho/ Mecânica Básica	2009
Equipment Safety & Design for Ergonomics	2009
Ergonomia	2009
Ergonomics for Engineers	2009
Formação Básica	2009
Higiene, Segurança e Saúde Trabalho e Int. com Agentes Químicos	2009

Quadro 13 – Formações em SHT da empresa certificada 2006 – Setembro 2009.

Apêndices IV

Análise dos acidentes/incidentes

Ergonomia

Date: 8-Nov-2007
Time: 12h

Description of Work Performed:
Employee working in several carrousel assembly stations (cockpit for Nissan vehicle)

Description of Incident:
The worker suffers tendonitis in his left wrist. It supposed to be caused by a **"CTD"** Cumulative Trauma disorder.
This worker had suffered a similar case 14 months ago.

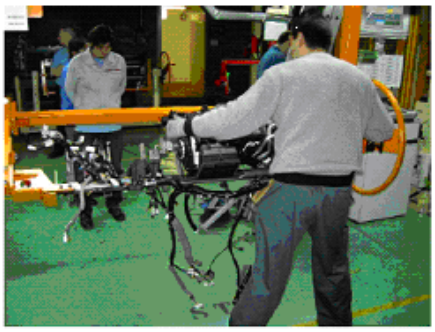
Identified Risk factors:

- because wire harness too cold (< 20°C) assembly process lead to over strain
- Some operators have a bad screwing position, placing the arm over the shoulder and holding all the weight of the tool.
- Personal restriction because of former injury case.

Injuries:
Tendonitis in his left wrist.

Forecast of days off:
10-12 days.

Photo:



Key Point Summary

- - to reduce the strength during manual assembly the wire harness should have a temperature over 20°C
- - identify operations with bad ergonomic postures, and find solutions according to causes (engineering, training, supervisors,..)
- to guarantee rotation between stations

Key Learning Points

- *regular inspection of warm up system (radiant heater)*
- *using of site-wheel to turn cross-carbean in operation height to avoid awkward posture.*
- *increase assembly training*
- *establish job rotation schedule*
- *conduct Ergonomic Risk Assessment at shop floor*

Date: 12/07/2007
Time: 5 pm

Description of Work Performed:

The "little train" driver was handling a plastic box containing metallic pieces for D2 door panel.

Description of Incident:

-

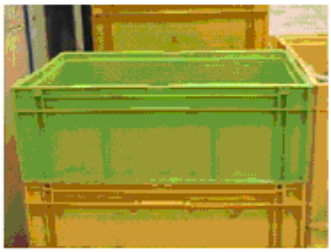
The "little train" driver was handling a plastic box containing metallic pieces when he felt a pain in his back. These metallic pieces are used to avoid D2 door panel . The "little train" driver is responsible of the transfert between assembly line and injection line of D2 door panel of these plastic boxes containing metallic pieces.

Injuries:

--

Pain on his back – 5 days off

Photo:



Key Point Summary

- **Weight of the plastic box full of metallic pieces**
- **Volume too high of the plastic box**

Key Learning Points

- **Used green plastic boxes (lower volume) – NO/GR – S50**
- **Handling by 2 people the time to put in place the first action – JB – S42**

Date and Time of Injury:8/16/07 7:00 AM

Problem Description
Employee was retrieving parts from a basket and placing then on a disassembly line. As she bent down to pick up a part, she felt a sharp pain in her back.

Interim Corrective Action
Instructing employees to use an extended tool to retrieve parts to eliminate bending down to pick up parts in lower level of basket.

Root Cause
Awkward position and too much bending and turning.

Permanent Corrective Action
Install equipment to tilt and elevate parts basket to eliminate need to bend down or to use extended tool to retrieve parts.

Photo:

Photos go here

This is a picture of the operator bending over to retrieve parts.

This starter is being lifted with an extended hook.

→

Key Point Summary

- Operation required manual removal of cores from container.
- When parts level in container reached ⅓ the operator must use extended tool to retrieve parts

Key Learning Points

- *Install a tilt device to eliminate the need to bend over for parts thus removing the need to use the extended tool.*
-

Date & Time of Injury: 03.Jun.2008 / *19.00*

Incident Description:

- *Employee from Stations 1&2 suffers cumulative trauma disorder in both forearms. During the last 3 weeks the shift-A had fewer employees than necessary, Nissan increased production, and rotation was not followed.*

Manual manipulation of HVAC module (12kg), CCB (12Kg) and clipping of wires and staples. Rotation is established to avoid CTD injuries.

Additional information:

- *Witness (Y/N): Y*
- *supervisor informed, when: Immediately*
- ***first time** or repetitive disorder*
- **Injury type: CTD**
- **Affected body part:** Both forearms
- **Estimated lost days:** *8 minimun*

Root Cause:

***Flag:** Environmental / Safety / **Ergonomic** / Fire / Occup. diseases*

- *lack of control in the rotation process*

Interim Corrective Action:

- *Immediate respect of rotation between Stations.*

Permanent Corrective Action:

- *Verification of rotation every 4 hours.*

Photo 1: Place of incident / accident

Photo 2: HVAC module

Photo 3: Wires block

Relevant EH&S Standard

- Standard:
- Gap to Standard (Y/N): Y
- Safety Violation (Y/N): Y

Key Learning Points

- *The Rotation plan must be verified daily, and updated on regular basis.*

Date & Time of Injury:

26/05/09 LTC certificated.
RC Previous 7781_Feb.2nd.09

Incident Description:

26/05/09. After medical review in mutual services, a B9 worker received a sick leave certification due to a CTD right arm with radiated pain in the Shoulder. This worker belong to one of the first group which started last year the B9 project. Due to the muscular disorders employee was shifted in February from Injection area stations to assembly area but these measure was not sufficient for her complete rehabilitation. Origin of disorders was last year.

Additional information:

- *witness (Y/N): leader, supervisor and production manager as well as EHS Committee.*
- *supervisor informed, when: immediately*

Flag: repetitive disorder.

- **Injury Type: *Tendinitis (CTD)***
- **Affected Body Part: *Right arm and shoulder***
- **Estimated lost days: *One month***

Root Cause

Flag: *Ergonomics*

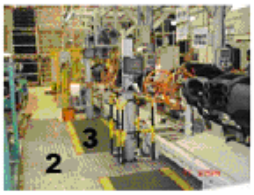
-Lack of Plant EHS input during phases of design of the projects.
-B9 project started in September 2007 with the pre-series, in January 2008 first parts were delivered to PSA and in April 2008 reached a 1035 parts per day. The actual production is 820 parts per day. In this initial phase (2008 first semester) just a few workers were trained in each shift for every workstation so rotations were not properly done and some tools were defective at that moment.

Interim Corrective Action:

Corporate EHS reviewed project in the final phase: preliminary acceptance in [ ] October 2006 and March 2007. CAR send to Tool manufacturer & Harnes Engineering with date of maturity.

Permanent Corrective Action:

1- according VISTEAT evaluation CFT defined remedial action.
2- Platform and ramps installation for avoiding stepping with manual handling in station 1, 10 and 11.
3- Anti-fatigue mats were installed in every station.
4- Moulds modifications for reducing some parts clipping efforts.
5- Hammers are used instead of fist efforts.
6- An automatic clipping tool for every clip in the IP was implemented so manual efforts were avoided.
7- Station nº 5 was automated for avoiding manual handling of airbag clipping tools (these tools were also in fact another ergonomic improvement but due to their weight they were very difficult to move properly so they were automated).
8- The required effort for rotating every workstation was reduced.
9- VISTEAT review for definitive installation started in September
10- Windscreen joint line clipping tool avoided manual clipping
11- implementation of carrier in the final station for avoiding IP manual handling.
12- A airbag façade clipping tool was implemented.
13- Job-Rotation has been established every hour.
14- A protocol for restricted workers is applied.
15- Health care provider on-site to advice about possible disorders.



Relevant EH&S Standard

- **Standard:** 4.3.1.3. EHS Review of projects.
- **Gap to Standard (Y/N):** Y. Corrected in site.
- **Safety Violation (Y/N):** N.

Key Learning Points

- *Communication of risks is essential for a continues improvement in EHS.*
- *Plant EHS input need to have more impact during the design phases.*

Date & Time of Injury: 1/9/08 9:45 PM

Incident Description:

PCM module cover fell off conveyor onto floor. Employee bent down and leaned to side to pick up cover and avoid hitting head on conveyor above. Employee heard a crack in lower back and felt tingling in buttocks. Employee worked rest of shift without incident. Next day he woke up with pain and tingling in buttocks, leg, foot.

additional information:

- *witness (Y/N):* ***none***
- *supervisor informed, when:* ***immediate***
- ***Flag:*** *first time*

- **Injury Type:** herniated disk
- **Affected Body Part:** *lower back*
- **Estimated lost days:** not yet determined.

Root Cause

Flag: *back injury*

Bending/twisting to pickup part may have aggravated a number of pre-existing conditions, such as degenerated disk, herniated, etc. Employee is still undergoing medical evaluations.

Interim Corrective Action:

Work area was given reminder on proper lift techniques (lift with legs not back, avoid twisting, etc). Plant safety talk in September 2007 was on back injury prevention.

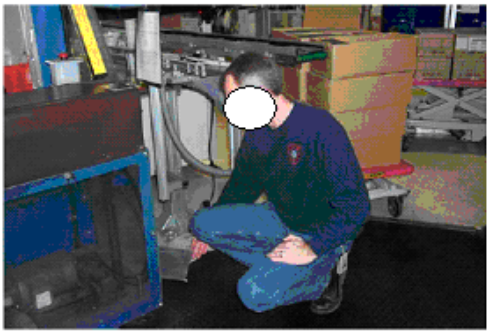
Permanent Corrective Action

Re-emphasis on back injury prevention with upcoming safety talk.

Photo:

Photo 1: re-enactment of incident

Photo 2: Preferred back posture



Relevant EH&S Standard

- **Standard:** *Work practices.*
- **Gap to Standard (Y/N** *no*
- **Safety Violation (Y/N):** *no*

Key Learning Points

- *Minor incidents, even as simple as a sneeze, can cause injuries such as this, especially if there are underlying circumstances. Need to stress following safe work practices all the time regardless of how basic they may be.*

Date & Time of Injury: ***08/06/09. Lost time case certificated by mutual services.***

Incident Description:

08/06/09. B9 worker out of work after external medical control due to a CTD (right shoulder). She didn't notified any problem this last month, meanwhile she was being reviewed by medical services. This worker is one of the group that started last year the project B9 and she has historical records about CTD assistance previously so it's related to work.

Additional information:

- *witness (Y/N): no*
- *supervisor informed, when: no*

Flag: repetitive disorder.

- **Injury Type:** ***CTD***
- **Affected Body Part:** ***Right shoulder***
- **Estimated lost days:** ***One month***

Root Cause

Flag: *Ergonomics*

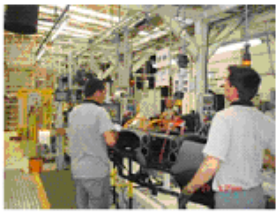
-Lack of communication and coordination between the different participants: workers-supervisor-medical service-EHS

Interim Corrective Action:

N.A.

Permanent Corrective Action:

- Rotation plan is being reviewed and restrictions will be included. 10/06/09. ONGOING.
- External Medical services – EHS [redacted] meeting to define action plan. 10/06/09. DONE Action plan: identify all employees with CTD (at any severity level), and tracking them to avoid serious cases and/or LTC.
- Define restricted employees (employees with CTD) inventory. 27th week.
- Engineering-Production-Maintenance-EHS meeting to establish next steps in B9. 11/06/09.
- Supervisors-leaders meeting to reinforce leadership commitment. 11/06/09.
- Individual medical review of B9 personnel. 25th-26th week.
- Define a Good Practices Book (ergonomics). 28th week.
- Train leaders and supervisors in Good Practices. 29th week.
- Train [redacted] workers in Good Practices. 29th week.
- After training, apply disciplinary procedure to workers that were not fulfilling Good Practices Book. After 30th week.



Relevant EH&S Standard

- **Standard:** 4.3.1.3. EHS Review of projects.
- **Gap to Standard (Y/N):** Y. Corrected in site.
- **Safety Violation (Y/N):** N.

Key Learning Points

- *Employees communication of CTD and medical coordination is essential for a continuous improvement in EHS.*
- *EHS input need to have more impact during the design phases.*

Date & Time of Incident: 06/27/2008
DRS Incident number: 6516

Incident Description:

Musculoskeletal disorder caused by repetition of high force when using the machine tools.
High force was applied employee repeatedly using machine tools (wrench, monkey wrench hammer etc) for repairing press mold.

Additional information:

- **Witness (Y/N):** - Y 01 employed
- **Supervisor informed (Y/N), when? –** Y
- **First time occurrence (Y/N) –** Y

Safety Incident Information:

- **Injury Type:** - Ergonomic
- **Affected Body Part:** - Elbow
- **Estimated lost days:** - 18 days
- **Repetitive disorder (Y/N)** - Y

Environmental. Incident Information:

- **Incident Type:** -
- **Media:** -
- **Agency Notification Required (y/n) :** -
- **Impact:** -

Immediate and Root Cause

Flag (highlight one) :
*Environmental / Safety / **Ergonomic** / Fire / Occup. diseases*

Interim Containment Action:

Permanent Corrective Action:

- *Conduct safety training on the proper use of handling tools.*
- *Stretching (health education).*

Photo 1:

Relevant EH&S Procedure/Standard

- **Standard:** - N
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non-Conformance (Y/N):** N

Key Learning Points

- *High Force: Employee repeatedly used machine tools (wrench, monkey wrench, hammer, etc.) for repairing press mold.*

Date & Time of Incident: *May 20, 2009*
DRS Incident number:

Incident Description:

On May 20, 2009, employee of development support team reported about the "Musculoskeletal Disorder". It was caused by repetition of the shoulder muscle and high t i force of loading and unloading the HVAC manufactures.

Additional information:

- Witness (Y/N): no
- Supervisor informed (*Yes*), when? *MAY, 20, 2009*
- First time occurrence (*Yes*)

Safety Incident Information:

- Injury Type: *musculoskeletal disorders (LTC)*
- Affected Body Part: *shoulder(Right)*
- Estimated lost days: *About 2 month*
- Repetitive disorder (Y/N) *yes*

Environmental, Incident Information:

- Incident Type: H&S
- Media: -
- Agency Notification Required (y/n) : -
- Impact: -

Immediate and Root Cause

Flag (highlight one) :
Environmental / Safety / *Fire* / *Occup. diseases*

Interim Containment Action:

- Stretching education (waist, trunk, shoulder etc) - Organized by the plant physical therapist. His name is Young-wook jeon.

Permanent Corrective Action:

- Safety training of the Development Support team
(Handling heavy materials)
- Stretiching a body (waist, trunk etc) before working job

Target Date: July 20, 2009

Photo 1:

Photo 2

Photo 3

Relevant EH&S Procedure/Standard

- Standard:
- Requires Change to Standard (Y/N): *No*

EHS Violation or Non-Conformance (Y/N): *No*

Key Learning Points

To provide regular stretching exercise for the people who are often involved in repetitive motion involving the shoulder muscle and high t i force of loading and unloading operations

Date & Time of Incident: 04/28/2008

DRS Incident number: 6006

Incident Description:

-Employee injured lifting 2 totes of fuel senders. While exerting himself he felt a "pop" in the lumbar region of his back which resulted in pain and discomfort to his lower back.

Additional information:

- *Witness (Y/N):* ***- No***
- *Contact:* ***-*** [redacted]
- *Supervisor informed (Y/N), when?* ***– Yes /immediately upon incident.***
- *Has this occurred before? (Y/N)* ***– No***

Safety Incident Information:

- **Injury Type:** ***- Overexertion***
- **Affected Body Part:** ***- Back***
- **Estimated lost days:** ***- 6***
- *Repetitive disorder (Y/N)* ***- NO***

Immediate Cause

Flag (highlight one) :
Ergonomic
-Overexertion

Interim Containment Action:

Employees advised not to overexert themselves when lifting totes; better to lighten load by lifting one tote in an ergonomically correct position using legs to lift, not back.

-

Permanent Corrective Action:

Same as above.

Photo 1: Illustration of incident

Relevant EH&S Standard

- **Standard:** - No
- **Gap to Standard (Y/N):** ***- No***
- **Safety Violation (Y/N):** ***- No***

Key Learning Points

- *Employees must use good judgement and be aware of their physical limitations.*
- *Never lift objects at maximum exertion*
- *Always lighten loads so that exertion is minimal and well within physical limitations*
- *Always employ proper ergonomic lifting positions; lift with legs not back*

Date & Time of Incident: October/2/2008
DRS Incident number: 7248

Incident Description:

The employee (one day in that task) presented a right wrist distension when she was trying to lift 4 evaporators (about 6 kg) (12 pounds).
Since June 26th 2008 she was assigned restricted work (DRS #6529): possible tendonitis she had been relocated in restricted work and her condition was moving to a good resolution. The medical department had recommended a special task to avoid overexertion in her right wrist. On October the 2nd she was relocated (without medical approval) to lift one evaporator to the conveyor but she moved 4 in one movement and a sprain occurred. She went to Social Security and a ST7 form was sent to us. The weight wasn't high weight but the wrist position is possible that cause a sprain or strain.

Additional information:

- **Witness (Y/N): yes**
- **Supervisor informed (Y/N), when? Immediately**
- First time occurrence (Y/N) – yes in this task

Safety Incident Information:

- **Injury Type: - sprain-strain**
- **Affected Body Part: - right wrist**
- **Estimated lost days: - 20 days**
- **Repetitive disorder (Y/N) – possible**

Immediate and Root Cause

Flag (highlight one) :
Environmental/ Safety / Ergonomics / Fire / Occup. Diseases
Relocation without medical department approval

Interim Containment Action:

Employee was removed to the proper task but she decided to go to IMSS and receive days off

Permanent Corrective Action:

When a restricted position is determined by the medical department and ergonomics' analysis that position shall not be changed without medical approval.

Photo 1: accident / incident

Relevant EH&S Procedure/Standard

- **Standard: - ergonomics**
- **Requires Change to Standard (Y/N): no**
- **EHS Violation or Non - Conformance (Y/N):**

Key Learning Points

- When restricted work is assigned to an injured employee as determined by the medical department and ergonomics' analysis that position should not be changed unless and until medical department authorizes the change.

Date & Time of Incident: 07 Oct 2008

DRS Incident number: 7268

Incident Description:
A Production Operator manually tried to move a pallet from the warehouse instead of waiting for a forklift to deliver the pallet to the production floor.

The pallets were stacked to a height of 1.60 m. She took it with both hands and when she pulled it up and to her right side she felt a pain in the low back
The size of the pallet is 1.25 x 1.25 m and a weight of 28 Kg.
The employee had been trained and advised not to lower the pallet manually.

Additional information:

- Witness (Y/N): N
- Supervisor informed (Y/N), when? Y 07/10/08 6:30 hrs
- First time occurrence (Y/N) Y

Safety Incident Information:
- Injury Type: STRAIN
- Affected Body Part: Lower Back
- Estimated lost days: 13
- Repetitive disorder (Y/N) *N*

Immediate and Root Cause

Flag (highlight one) :
Ergonomics
- The employee didn't follow the required procedures.
- Improper position to perform the task.

Interim Containment Action:
-The Medical department attended the employee, and assigned her to a different position.
On October 08 the employee decided to go to the Social Security, the IMSS delivered the disability forms to the plant to be filled.

-A refreshment of the "Performance with the procedure" was deployed to the employees
Permanent Corrective Action:

Safety talk with the all employees for involved in the task to identify opportunity areas and to avoid insecure acts

Reinforce Safety walks by production supervisor

Further actions to be defined once complete investigation are completed.

Photo 1:

The size of the pallet is 1.25 x 1.25 m and a weight of 28 Kg.

Photo 2

A simulation of the position when the employee was injured (using a pallet which weighs less).

Relevant EH&S Procedure/Standard

- **Standard:** - Ergonomic
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non - Conformance (Y/N):** Y

"Non-conformance with the procedure"

Key Learning Points

- *Employees should follow all safety procedures even when the job can be done more quickly if safety procedures are ignored.*
- *Implement system of kanban to place the platforms in the use point*

Date & Time of Injury: April 04, 2008 - 5:20 a.m. Hours

Incident Description:

When the employee was stopping the hydraulic lifter with two hands she felt a pain in the right shoulder due to the force required to stop the load..

Additional information:

- **Injury Type:** *-Sprain*
- **Affected Body Part:** *- Shoulder*
- **Estimated lost days:** *- 4*

Root Cause

Brief Summary:

- Employee was moving the hydraulic lifter too fast
- The employee overexerted her shoulder when she stopped the lifter due to the high inertial force of the load.

Interim Corrective Action:

All employees in cell A2 (Assembly) were informed of the accident and Trained in the correct use of the Hydraulic lifter.

Permanent Corrective Action:

Training on the correct use of lifter hydraulic for all employees who use them.

Photo 1: Illustration of incident

Relevant EH&S Standard

- **Standard:** *-No*
- **Gap to Standard (Y/N):** *-No*
- **Safety Non-conformance (Y/N):** *N*
- **Explain :**

Key Learning Points

- Talk to all employees cell by cell A2 (Assy) about this accident.
- Training on the correct use of lifter hydraulic.

Date & Time of Incident: 19 Ags 2008

DRS Incident number: 6886

Incident Description:

The employee lifts a magazine with electronic boards turning her waist toward the left, due to the inappropriate position of body the employee suffered a strain in her back

Additional information:

- Witness (Y/N): N
- Supervisor informed (Y/N), when? Y 19/08/08 7:30 hrs
- First time occurrence (Y/N) Y

Safety Incident Information:

- Injury Type: STRAIN
- Affected Body Part: Low Back
- Estimated lost days: 7
- Repetitive disorder (Y/N) *N*

Immediate and Root Cause

Flag (highlight one) :

Ergonomics

- Lack of attention to the procedures
- improper position to perform the task

Interim Containment Action:

-The Medical department attended the employee, and assigned her to a different position.
On August 22 the employee decided to go to the Social Security, the IMSS delivered the disability forms to the plant to be filled.

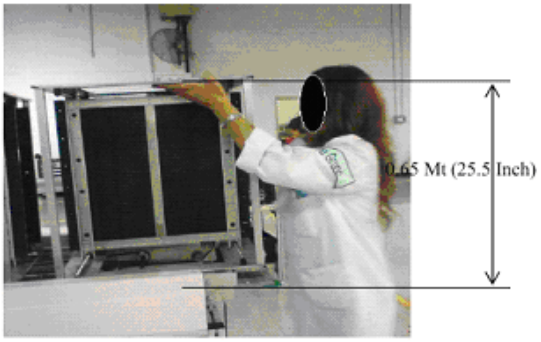
-A refreshment of the "Materials handling manual" was deployed to the employees

Permanent Corrective Action:

Conduct safety training on the proper materials handling

Reinforce Safety walks by production supervisor

Photo 1:



Weigh of the magazine with 15 electronic board =16 Kgs (26 Lbs)

Relevant EH&S Procedure/Standard

- Standard: - Ergonomic
- Requires Change to Standard (Y/N): N
- EHS Violation or Non - Conformance (Y/N): Y
- *improper position for the task*

Key Learning Points

Reinforce every six months the Material handling procedures in where includes the different position of the body to move in a safe way any material

Corte e Travamento das Fontes de Energia

Date & Time of Incident: 01/06/09 1:30 *pm*
DRS Incident number:

Incident Description: Near miss. Technician was working on pick and place (photo 1) with downstream air supply (P) locked out (photo 2). Another maintenance person was working on main machine with the main air (P1) locked out (photo 3). When main air supply was energized, the air cylinder in the pick and place area (photo 1) retracted while area was still locked out. No injuries or contact with moving equipment.

Additional information:

- **Witness (Y/N): Y -**
- **Supervisor informed (Y/N), when? – Y Immediately**
- **First time occurrence (Y/N) – Y**

Safety Incident Information:

- **Injury Type: None**
- **Affected Body Part: - N/A**
- **Estimated lost days: - N/A**
- **Repetitive disorder (Y/N) - *N***

Immediate and Root Cause

Flag (highlight one) :
Environmental / Safety / Ergonomic / Fire / Occup. diseases
Root Cause: Machine pneumatics plumbed differently than indicated on ECPL placard allowing pneumatic energy to pick and place while area locked out.

Interim Containment Action:
All maintenance personnel informed and signs placed at downstream air shutoff and entrance gate to lock out main air.

Permanent Corrective Action:
1) Specific - Replumb machine to ensure pneumatic energy in pick and place area is controlled when downstream air shutoff is locked out.
2) Systemic - Institute process to require annual review and sign-off of ECPL placards and equipment to verify accuracy.

Photo 1: Pick and place retracted while area was locked out.

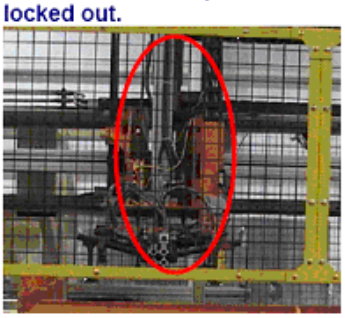
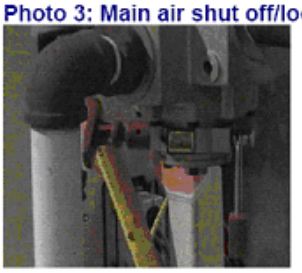


Photo 2: Downstream air shut off/lock-out for pick and place.

Photo 3: Main air shut off/lock-out.



Relevant EH&S Procedure/Standard

- **Standard:** -
- **Requires Change to Standard (Y/N):**
- **EHS Violation or Non-Conformance (Y/N):** -

Key Learning Points

- *Verify the placard when it is posted using subject matter experts for each energy source.*
- *Review the placard annually to assure that it is accurate..*

Date & Time of Incident: 14/03/2009 10:25 *am*
DRS Incident number: 7887
Incident Description:

- The technician was performing a corrective maintenance in a hopper (una dyne 2- area 2). A hopper was blocked because of cork of downs preventing the material flow.
- The technician opened the hopper mechanism to remove the cork of downs with a tool (wrench). When he could not remove it with the tool he decided to use the left hand finger to remove it. When he introduced his finger, the gate closed cutting the distal phalange.
- The technician did not lock out the pneumatic main energy and the opens the gate opened using the solenoid valve.
- Machine has visual aids mentioning that is prohibited introduce fingers and-or hands into the valves.

Additional information:

- *Witness (Y/N): No.*
- *Contact: Supervisor*
- *Supervisor informed (Y/N), when? Yes, 14/03/09*
- *Has this occurred before? (Y/N) No.*

Safety Incident Information:

- Injury Type: cut.
- Affected Body Part: Distal phalange index finger left hand.
- Estimated lost days: 21 days.
- Repetitive disorder (Y/N) – No.

Immediate and Root Causes

ECPL violation (pneumatic main energy).

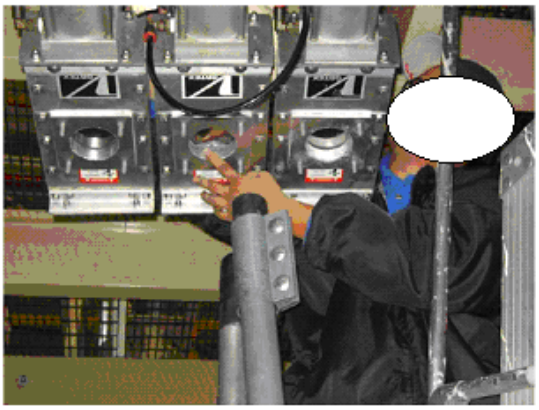
Interim Containment Action:

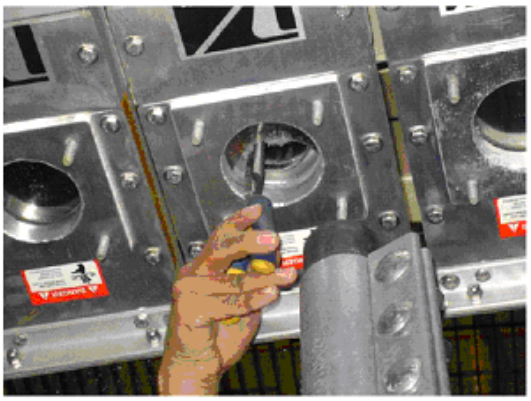
- *The employee has been send over the Hospital for evaluation.*
- *Tested the mechanism of the accident with Supervisor, Superintendent, EHS engineer, and we concluded that*
- *The pneumatic valve never was closed*
- *Implementation of ball valve lockout for pneumatics main energy lines as a contingency actions.*
- *Technicians were trained on PLO in July 07, first refresh on October 07 and last refresher Dec-08*

Permanent Corrective Action:

- *Disciplinary action - 0 tolerance for Safety Violations.*
- *We will buy & implement the quick close valve*

Photo 1: accident / incident





Relevant EH&S Procedure/Standard

- **Standard:** - *Yes*
- **Requires Change to Standard (Y/N):** *No.*
- **EHS Violation or Non-Conformance (Y/N):**
  - *Yes. 100. The employee did not follow the ECPL procedure on the pneumatic main energy.*

Key Learning Points

- *We must continue to apply "ZERO TOLERANCE" for Energy Control and Power Lockout Violations*
- *Continuous training on hand safety and all safety requirements is important.*
- *EHS Walks should promote avoidance of unsafe acts and their consequences.*
- *Un-jamming requires ECPL just like other maintenance tasks*

Date: 31 May.2007 5:30 AM

Event: LTC when the employee attempted to align the horizontal piston his finger was trapped between vertical piston

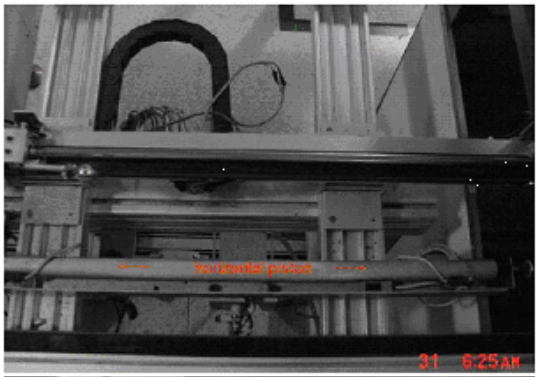
Cause: The Employee didn't apply the ECPL.

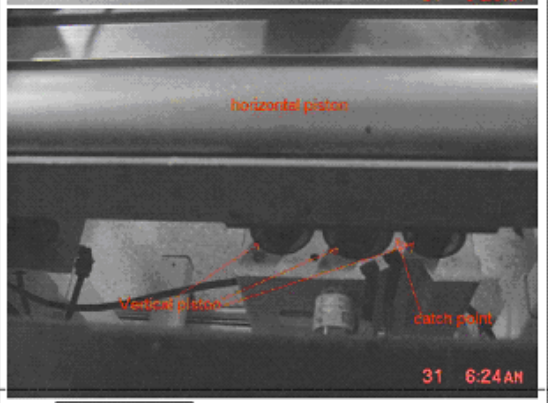
Work pressure was 60 pounds

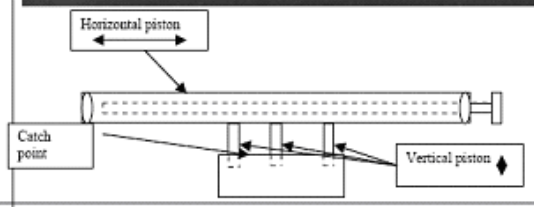
Description of Work Performed: Review all the similar equipment. Reduce work pressure to 20 pounds and install guards in the vertical piston

Description of Incident: The employee, maintenance technician was aligning the horizontal piston without cutting the energy, the horizontal piston jammed in the superior position, the employee tried to liberate and in this moment the vertical piston when down and it caught his finger

Photo(s):







Key Point Summary

- **Inadequate application the ECPL program**
- **Inadequate work pressure**

Key Learning Points

- **Review all the similar equipment and reduce the work pressure to 20 pounds.**
- **Install guards in the vertical piston**
- **All technical training to ECPL program.**

Date:-17th of July 2007
Time:- 07:30 pm
Estimated lost days:- 10
Estimated Date of Return:- 6th of August

Cause:- Safety
[Safety / Ergonomic / Motivation / Occupational Disease]

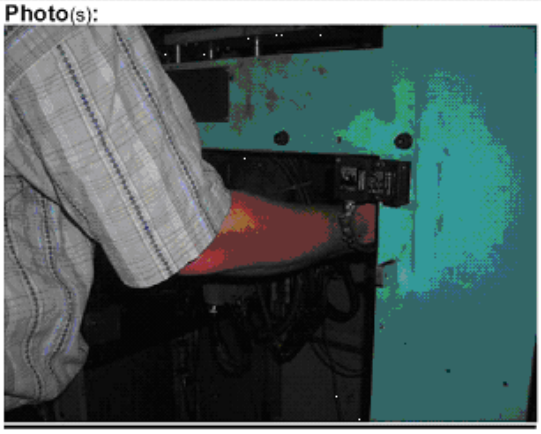
Description of Work Performed:
A maintenance operator was repairing a carbon canister welding machine.

Description of Incident:
The welding fixture was blocked, the maintenance operator opened the protection guard, put his arm inside the machine, while touching a pneumatic cylinder, the cylinder move back and cut the arm.

Immediate corrective actions :
Check all safety components. All are OK
Add safety instruction on the doors.
Inform all maintenance people.

Affected Body Part:- forearm
Injury Type:- Cut

Photo(s):



Key Point Summary

- - Employee did not respect the verification parts of ECPL process
- - Employee was recently trained during ECPL training initiative
- - Risk assessment for this special maintenance operation not done

Key Learning Points

- "Zero tolerance" for unsafe actions

Date: 28/08/2007
Time: 20.10 Hrs
Estimated lost days:
Estimated Date of Return: 21/09/2007

Cause: Safety
[Safety / Ergonomic / Motivation / Occupational Disease]

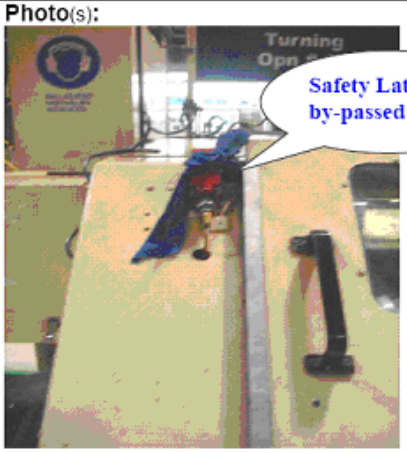
Description of Work Performed:
Employee was working in TD 30 NCT Turning Machine (operation No. 80).

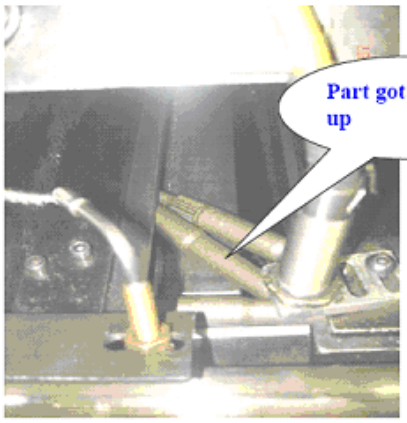
Description of Incident:
During this operation the machine displayed a fault message with indication light as the operation sensor could not detect the component in its path. Immediately he opened the main door, and the safety latch was bye-passed. He found that the part got struck-up in between the loading chute & the escapement cam, near to the feed tube.

The operator didn't reset the fault by pressing the reset button and tried to release the stuck part by his right hand middle finger. As soon as the part got released, the operation sensor sensed the component and as a result, the push rod inside the feed tube got activated and pushed the part on the collet, where his Right Hand Middle Finger was inside the feed tube Slot. Due to this his Right Hand Middle Finger got jammed resulting in injury in the tip of the finger.

Affected Body Part: (Rt) middle finger
Injury Type: Avulsion of finger pulp

Photo(s):





Key Point Summary

- Operator not followed the procedure (didn't press the reset button).
- Safety interlock by-passed
- Chute was not adjusted to the part dimension.

Key Learning Points

- *Safety interlocks need to be verified for their functions and to be corrected where necessary*
- *Team to be refreshed on safe operating procedure.*
- *Chute arrangement to be modified as and when there is change in part dimension*

Date and Time of Injury: 04/08/2008, 4.30pm

Incident Description:

At the end of the cycle of the machine used to do waste plastic ball, the lower metallic wire broke. Seeing that, the operator put his arm under the machine to take the metallic wire and pull it under the tunnel of plastic balls (see the photo). At the moment, the piston of the press started and cut the upper phalanx of the index finger.

The operator told the nurse that before to put the finger under the machine, he put the machine in the manual mode (normally this mode doesn't authorized a movement without pushing the button "step by step") and that the piston started alone. We found the machine in the manual mode and the selecting button was on the "piston movement". We didn't found any hydraulic failure. We didn't succeed to reproduce any electrical safety failure. We will have a detail study with the machine supplier tomorrow morning. The machine is switch off until checking of the safety function by the supplier and a external control organism.

Additional information: the machine in place is not the property of [redacted] but the contractor's one.

Interim Corrective Action:

Switch off of the machine.

Root Cause

ECPL violation
Machine dysfunction ?
Machine conception

Permanent Corrective Action

Supplier asking to come in [redacted] plant for studying what could have happen and check all the safety of the machine. The supplier will be in [redacted] plant tomorrow morning
Checking of the prevention plan and the regulatory control of the machine
Checking of the ECPL material availability

Photo 1 : accident situation

Photo 3 : General workplace station view

Relevant EH&S Standard

- **Standard:** *ECPL, Contractor work, Machine conception*
- **Gap to Standard (Y/N):** *Y.*
- **Safety Violation (Y/N):** *ECPL violation*

Key Learning Points

- *Communication on the accident and a reminding of ECPL importance – [redacted]*
- *Contractor safety training to organize – [redacted] – April*

Date: Tuesday, September 15, 2007

Description of Work Performed:
Employee was cleaning 20-8053/54RSI mold inside 1100T IMM.

Description of Incident:

Employee who works in Section III was partially scalded by the material from the mold on the back of hand and arm when he was cleaning 20-8053/54RSI mold inside 1100T IMM. The barrel was backed up, the motor was turned off, but the temperature box was not turned off. The employee went inside the machine to clean the mold while the PBT material was in the mold.

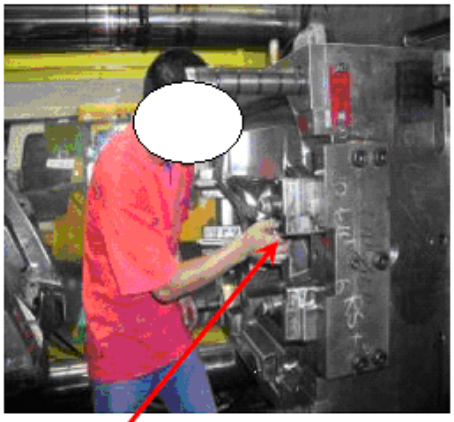
Injuries:

Burn to the back of hand and arm.

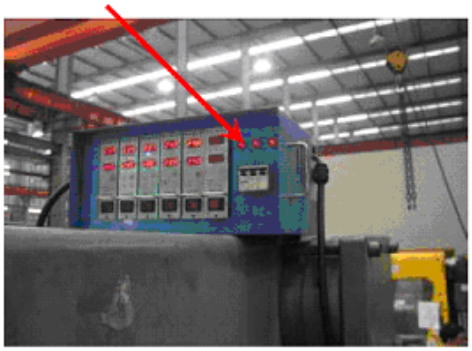
Key Points Summary

- This is a hot runner mold with PBT material.
- The employee went inside the machine to clean the mold without following proper safety procedure.
- Ensure all employees are aware of the proper procedures, including backing up barrel and turning off both temperature box and motor prior to cleaning the mold.

Photos:



Material ejected out from here
The Temperature box was not turned off



Key Learning Point

- Declare to the employee that the barrel must be backed up, the motor and temperature box must be turned off for the hot runner mold.
- Employee was fined 150 RMB for failure to follow existing safety rules.

Date : December 7th, 2006
Time: 8:25 a.m.
Estimated lost days : can not be determined at the moment
Estimated Date of Return can not be determined at the moment

Cause:-
[Safety / Ergonomic / Motivation / Occupational Disease]

Safety – violation of safety rules and ECPL rules

Description of Work Performed :

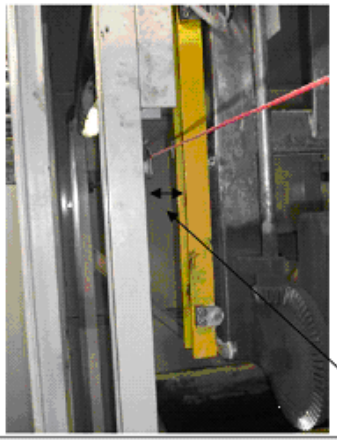
Machine worker, operator of degreasing unit – manufactured by [ ] company.

Description of Incident :

The operator of degreasing unit (manufactured by [ ]) for unknown reasons stepped on the frame of roller conveyor, opened cover door of the cabin (there are 2 mechanic locks on door) and put his head inside the cabin, while the equipment was still in operation. Subsequently, his neck was pressed by moving part of the equipment against the frame of the cabin – photo 1.

Affected Body Part : neck
Injury Type : contusion

Photo(s):
Place where employee's neck was squeezed.



Key Point Summary

- „Failure signaling device" on control panel did not record any failure on equipment before the time of the incident!!
- Despite this - and for unknown and unbelievable reason - the employee performed this forbidden activity – he opened one of the cover door (each part of cover door is secured at the top and bottom by 2 mechanic locks)
- All these activities were performed by the employee while the equipment was in operation.
- Serious violation of ECPL rules

Key Learning Points

- Follow safe working procedures
- All kinds of energy must be locked in line with ECPL rules during authorized access into the operating space of the equipment.

Equipamentos de Protecção Invidual

Date: 10/08/2007
Time: 8:00 pm

Description of Work Performed:
The operator was working in Compressor Assembly 2nd line at 20 station.

Description of Incident:
As she telling an metall chip went into her thumb. She went our doctor only the next day, who treated her. Next week she was on holiday, but during the holiday she needed to go to ambulance because her thumb was putrefied and the surgeon operated on her thumb. After holiday, while her thumb did not well, she went to her family doctor, who took her in sick-pay. When she returned to work this week she reported that she was on sick-pay for 5 day.-

Injuries:
Right hand thumb

Photo:

Key Point Summary

- **The investigation was finished**
- **She was wearing gloves with PA coating. The gloves are wearing not for safety reason.**

Key Learning Points

- *We are trying new thicker gloves for this operation.*
- *We provide new refresher training for all employees about the LTC reporting requirements.*

Date of accident:	June 19th. 2007 / 1.30 PM
Workstation:	Injection moulding machine B-30
Name of accident victim:	
Injury:	right eye, bruise
Supervisor:	
Description of occurence:	wanted to change the tool at the injection moulding machine B-30. During pulling out the pressure-free hydraulic hoses, hit with the nipple of a hose against the right eye.
Cause:	The reason for this accident is the inattention and carelessness of the worker.
Corrective Action:	Instruction by supervisor again!

Photo 1

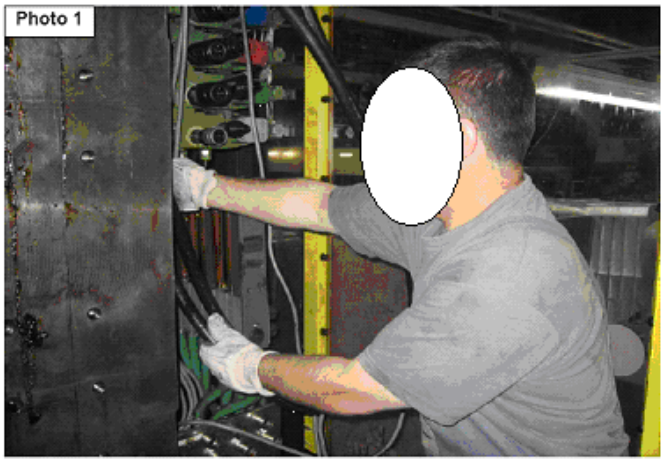
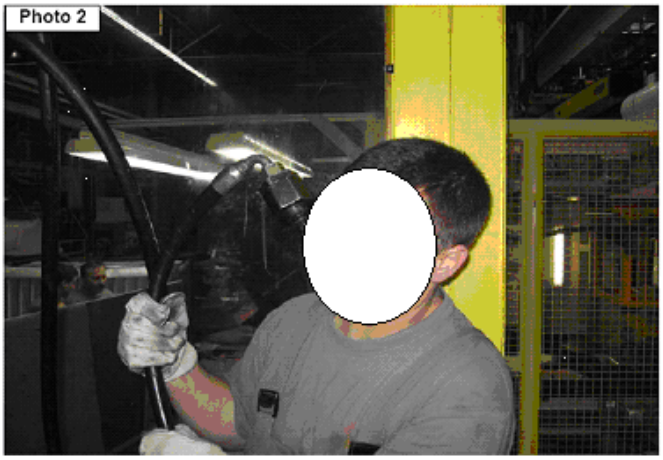


Photo 2



Date: August 27th 2007
Time: 13h30

Description of Work Performed:
Skilled worker

Description of Incident:
By raising a pallet, Mrs D. has slid on a puddle of oil. She has dropped the pallet that fell on her left foot.

Injuries:
Fracture at the left foot

Estimate date of return:
25th September 2007 = 20 day's loss

Photo:

Key Point Summary

- Keep attention while carrying out the job
- Systematic cleaning of the puddles of oil

Key Learning Points

- *Obligation to use our hand-lift truck to move one pallet*
- *To improve our efficiency to clean quickly after oil leakage*

Date & Time of Injury: May 20, 2009

Incident Description:

An employee was using a box cutter to trim excessive foam and vinyl from GM instrument panel. The employee was using left hand to hold/steady the instrument panel and cutting with his right hand. His right hand slipped and he cut his left thumb. The cut required 5 stitches. The employee was not wearing gloves or cut protection sleeves.

Additional information:

- *Witness (Y/N):* - *Y*
- *Supervisor informed, when:* - ***Immediately***
- **Flag:** first time or repetitive disorder: **first time**
- **Injury Type:** ***Laceration***
- **Affected Body Part:** ***Left thumb***

Estimated lost days: ***0 days***

Root Cause

Flag: Safety

- *Employee not wearing required PPE*

Interim Corrective Action:

- *Safety Stand down*
- *Emphasize*
- *Conduct several audits per shift to ensure required PPE is being worn*

Permanent Corrective Action:

- TBD

Photo:

Relevant EH&S Standard

- **Standard:** **Personal Protective Equipment**
- **Gap to Standard (Y/N):** **Yes**
- **Safety Violation (Y/N):** **Yes**

Key Learning Points

- *Always wear required personal protective equipment.*
- *Do not use your non-cutting hand to steady or hold what is being cut if it is in the path of the cut.*
- *Use safety knives with auto-retracting blades when possible.*

Date & Time of Injury: March 24, 2008, 18:00

Incident Description:

Production operator was moving fixture to change product model in condenser #1 unloading line. While changing the model, the fixture was dropped and hit the operator's big to, causing contusion. The operator was wearing steel toed shoes. After the accident, the operator felt a little pain. But as time passed, the operator feels more pain than before. Operator then rests for three (3) days.

Additional information:

- *Witness (Y/N):* **Y**
- Supervisor informed, when: **immediate**

- **Injury Type:** contusion
- **Affected Body Part:** big toe
- **Estimated lost days:** 3

Root Cause

Flag: Environmental / Safety / Ergonomic / Fire / Occup. diseases

Substandard Condition: *NA*

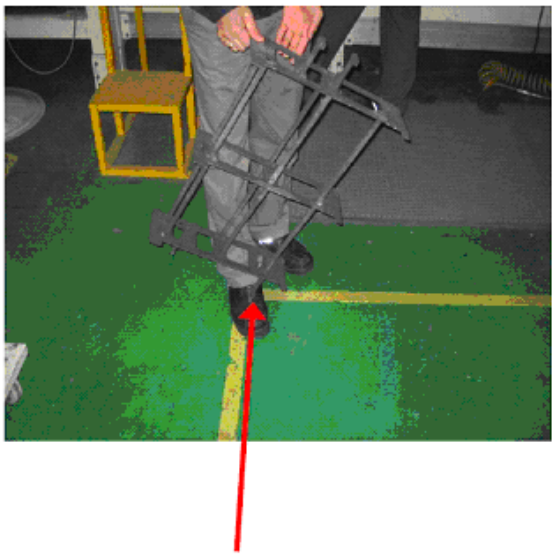
Interim Corrective Action:

The employees received training about the safe behaviors and risk in this process.

Permanent Corrective Action

- *Feedback to employees performing similar work*
- *Single point lesson on carrying fixtures*

Photo:



Fixture hits foot

Relevant EH&S Standard

- **Standard:** *Safety protection*
- **Gap to Standard (Y/N):** N
- **Safety Violation (Y/N):** N

Key Learning Points

- *Employee must be careful when carrying fixture and be careful not to drop.*

Date : 20.08.2007
Time : 16:00

Estimated lost days : **3 days**
Estimated Date of Return : 23.08.2007

Cause : Safety
[Safety / ergonomic / Motivation / Occupational Disease]

Description of Work Performed :
Automatic molding process of plastic body with manual removing of plastic overflows .

Description of Incident :
During manual removing of plastic overflows around and inside the plastic body by scalpel, the operator has cut her left forefinger , near to nail socket .

Injuries : left forefinger
/affected body parts /

Injury type : cut injury

Immediate corrective action :
- first aid , medical treatment
- verification of protective equipment and tool

Photo :

Improper hold of plastic body – scalpel movement is going against finger

Due to slipped scalpel the operator injured her forefinger through the protective cotton glove

Key Point Summary

- Improper working procedure
- High occurance of overflows, molding tool capability

Key Learning Points

- Update of working instruction
- Periodical safety training and introduction to corrective action
- Adjustment of molding tool

Date: 14.12.2007
Time: 15:00

Description of Work Performed:
The operator was assembling door panel

Description of Incident:
While normal operation on assembly line – picking – a Quality Engineer was checking the quality of door strips very close to production operator. Production operator turned his head right. At the same time Quality Engineer took one of the door strips out from the rack and hit the operator in the eye.

Injuries:
Small scratch in the eye

Photo:

Key Point Summary

- **Wrong organization of work**

Key Learning Points

- *The quality control of door strips will be made out of the rack*
- *Information to all employees about the accident*
- ***Always wear safety glasses where there is risk to your eyes.***

Date: JUNE 18, 2007 7:30 A.M.

Description of Incident:
The employee suffers a contusion in the last phalange of the right ring finger. He was handling the gear box with both hands and the gear slipped down hitting finger. The gear weight is approximately 45 pounds.

Immediate Cause: The gear slipped down from his hand.

Root Cause:

- The gear wasn't clean. It had grease in its surface and the employee can't manipulate the gear properly.
- The employee was not wearing the safety gloves for this job position.

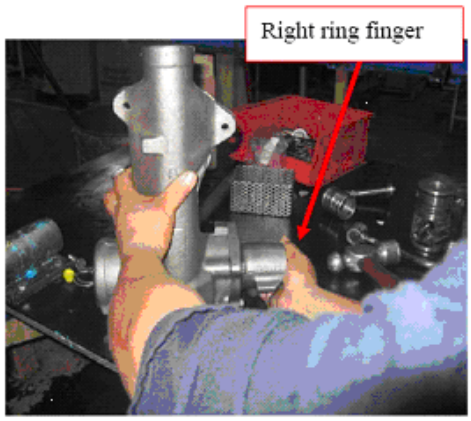
Immediate Contention Actions:

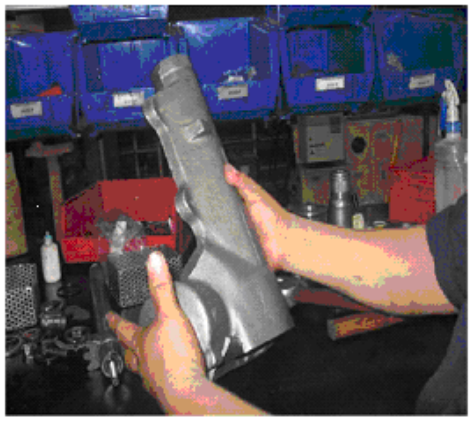
- The employee was attended by the Plant Medical Department.
- The employee was assigned to restricted job.
- Later at 10:40 a.m., the employee desired to go to [redacted] (government Health Care Service) where he was diagnosed with a small bond fissure in the phalange of the right ring finger.

Corrective Actions:

- Improve the safety talks about the use of the PPE.
- The plant will evaluate the use of other gloves due to employees comments; some employees said that they some times don't wear the gloves because are not adequate to manipulate either big or small parts at the same time. They have to do that in this job position.
- The supervisor will review that the parts that previously were in the rework area must be cleaned before start this job position.

Photo :





Key Point Summary

- Wear the correct PPE every time.
- Parts that come from the rework area must be washed and reviewed before start this job position.

Key Learning Points

- Reinforce the PPE use in the whole facility.
- No pieces should be disassembled and/or assembled without cleaning or washing them first.

Date & Time of Injury: *21/01/08 9:15 A.M.*

Incident Description:

- Electrical maintenance worker burned his left hand while removing solid plastic material from a mould as the first step in order to start the injection press and analyse robot failure.

Additional information:

- *witness (Y/N): yes - Robot failure was being attended by two Maintenance workers, the injured and another one.*
- *supervisor informed, when:* ***- after accident happened***
- ***Flag:*** *first time*

- **Injury Type:** ***- Burn***
- **Affected Body Part:** **- Left hand**
- **Estimated lost days:** ***- 12***

Root Cause

Flag: *Safety*

- Failure to use PPE because he doesn't take into account projection risks related with the mould so he didn't wear the appropriate PPE for that previous task, necessary for trying to start the machine and analyse the robot failure he was trying to solve.

Interim Corrective Action:

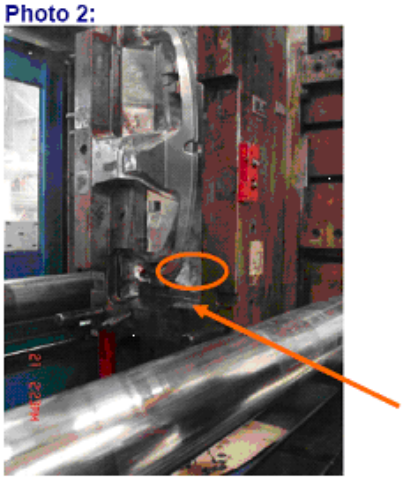
- *Medical treatment*
- *Written notification to the worker and his supervisor.*
- *Single Point Lesson to everybody.*
- *Safety Alert posted in injection presses review.*

Permanent Corrective Action:

- *Zero tolerance: Disciplinary actions will be applied when failures to use PPEs will be detected.*

Photo 1:

Photo 2:



Relevant EH&S Standard

- **Standard:** - PPE
- **Gap to Standard (Y/N):** ***- Yes***

Key Learning Points

- *PPEs are mandatory ALWAYS, not only for long term tasks. Minute tasks are as dangerous as Hours tasks.*

Arrumação e Limpeza

Date & Time of Injury: ***25/February /18:30 pm***

Incident Description:

The employee wanted to pick up the reject parts from the chute behind the Murata machine. She went next to the machine and slipped on the floor, which was dirty by coolant, which was come from the employees' shoes.

Additional information:

- *witness (Y/N):* *Y(colleague)*
- *supervisor informed, when:* *Yes, at once*
- ***Flag:*** *first time*

- **Injury Type:** **bruise**
- **Affected Body Part:** ***sacro-iliac***
- **Estimated lost days:** 15

Root Cause

Flag: *Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

-the floor was dirty

Interim Corrective Action:

-clean the floor

Permanent Corrective Action:

-work process modifying – the employee, who make the visual check, will be collect the reject pieces
-shall fix the salvagers around the all machines In whole machining area
-shall find a solution that less coolant come out the machines

Photo 1: accident / incident

She walked here

Relevant EH&S Standard

- **Standard:** - housekeeping
- **Gap to Standard (Y/N):** ***-N***
- **Safety Violation (Y/N):** ***-Y*** decrease housekeeping

Key Learning Points

- *-Keeping a good floor condition next to machine as well*
- *-Checking the salvages periodically*

Date & Time of Injury: *Jan. 16th. 2008 / 12:40 pm*

Incident Description:

Work not started yet, happen when operator arrives at work station.
During walking, the operator walks on a sprue (scrap plastic part), slides and twists her ankle.
Employee wore safety shoes

Additional information:

- *witness (Y/N):* ***Y*** *(colleagues)*
- *supervisor informed, when:* ***immediate***
- ***Flag: first time*** *or repetitive disorder:*

- **Injury Type:** ***strain***
- **Affected Body Part:** ***left ankle***
- **Estimated lost days:** ***7***

Root Cause

Flag: *Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

housekeeping

Interim Corrective Action:

Floor cleaned.
Housekeeping at each shift end reminded to all operators

Permanent Corrective Action

ditto

N216

Photo 2: accident simulation

Relevant EH&S Standard

- **Standard:** housekeeping
- **Gap to Standard (Y/N):** ***N***
- **Safety Violation (Y/N):** ***Y***

Lack of housekeeping at shift end.

Key Learning Points

- *employee behaviour, take housekeeping seriously*
- *Perform a 5 min safety talk to the operators to remind importance of housekeeping.*

Guardas e protecção de equipamentos

Date & Time of Incident: Apr /15 /2008 13:15 Hrs

Incident Description:

- Employee was working in his area. He was working in the valves of the evaporator and carelessly leave his left middle finger between two pallets (as showed in the picture) when suddenly a caught between occurred and a struck by the pallets produced a cut (less than 1 cm) and a fissure (little fracture without displacement) in the distal part of the distal left middle finger bone (phalanx).

Additional information:

Employee instructed to warn
Suggested guard
Because the injury permits a restricted work we tried to relocate the Operator in a special task but he decided to go to the [redacted] (Social Security) and he will returned to work probably in 15 days.
We will talk with [redacted] to try to reduce the days off with our proposal of restricted (one hand) work.

Safety Incident Information:

- **Injury Type:** - *Hair line fracture*
- **Affected Body Part:** - **Finger (Middle left)**
- **Estimated lost days:** - **15**
- *Repetitive disorder (Y/N)* - ***N***

Root Cause

Flag (highlight one) :
Safety
- *Inadequate Guarding*
- *Employee Inattention*

Interim Corrective Action:

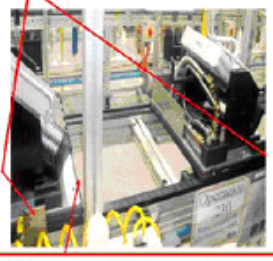
- *Guarding installed at the location of the incident*

Permanent Corrective Action:

- *Review of conveyors to verify all similar areas are guarded*

Photos:

[redacted] **A sensor stops the pallet and the conveyor**



Site of the caught between two pallets. A cut occurred (8 mm) in the left middle finger and also a very little fissure in the distal part of the distal phalanx

Immediate corrective action: guard installed

Relevant EH&S Standard

- **Standard:** - Machine Guarding
- **Gap to Standard (Y/N):** - ***Yes***
- **Safety Violation (Y/N):** - ***Yes***

Guarding must be in place prior to machine operation

Key Learning Points

- *All pinch points must be guarded*
- *Safety reviews of all equipment including guarding reviews must be conducted prior to operation.*

Date & Time of Incident: June 20, 2008 @ 23:20

DRS Incident number: 6470

Incident Description:

Employee was on the unload area for Hard coater # 2, she reacts to a jam condition with fixture pallets on the load area and try to remove jammed pallet and injured occurred due to pinch condition.

Additional information:

- Witness (Y/N): N
- Supervisor informed (Y/N), when?: Yes, In the moment was informed
- First time occurrence (Y/N): N

Safety Incident Information:

- Injury Type: Wound and Fracture
- Affected Body Part: Middle Right Finger
- Estimated lost days: 0 Day
- Repetitive disorder (Y/N): N

Immediate and Root Cause

- Inappropriate reaction;
- Job instruction not followed.

Flag (highlight one) : Safety

Interim Containment Action:

- Employee was sent to receive a medical treatment at plant medical services
- Stop equipment to analyze this event.
- Evaluate options to avoid this pinch point.

Permanent Corrective Action:

- Reinforce training about reaction plan.
- Implement the JSA (Job Safety Analysis) en the assembly operations.
- Eliminate pinch point.

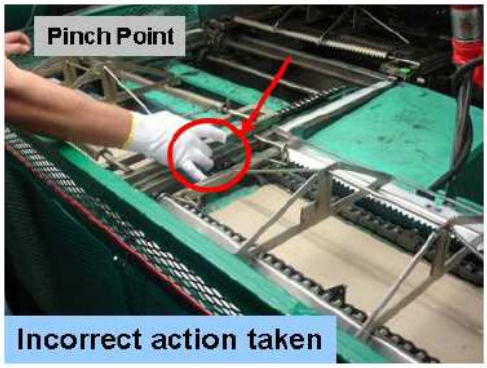
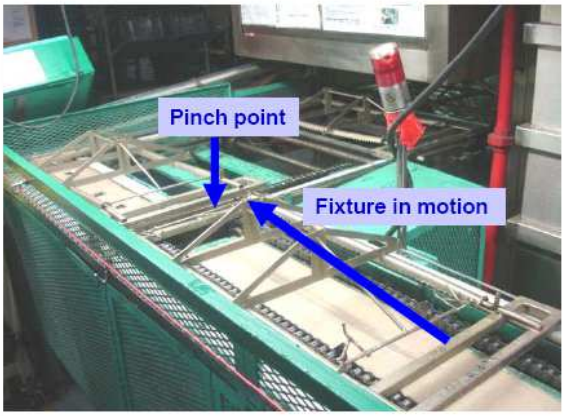


Photo 1: Accident / Incident



Relevant EH&S Procedure/Standard

- Standard; N/A
- Requires Change to Standard (Y/N): N
- EHS Violation or Non-Conformance (Y/N): Yes, The work Instruction was not followed

Key Learning Points

- Identify and work on eliminate any pinch points.
- Periodical reinforcements about risk conditions.

Date & Time of Injury: *May, 26th.2009 /21:30 = 9:30 pm*

Incident Description:

Incident occurred in the night shift; an operator suffered a thumb-tip amputation as she held a tube in the assembly fixture with both hands during the crimping operation, while a second operator actuated the machine with the 2 hand control system. The operators did not follow procedure because the aluminium tube couldn't be placed correctly in the assembly fixture. This behaviour did not follow the assigned process and the supervisor was not aware of this unsafe action.

Additional information:

- *Witness (Y/N):* - *Y*
- *Supervisor informed, when:* - ***05/26/2009***
- **Flag: first time** or repetitive disorder:
- **Injury Type:** - ***partial amputation***
- **Affected Body Part:** - **thumb-tip**
- **Estimated lost days:** - 6

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- *violation of basic work procedure & instruction manual*
- *serious violation of safety rules*

Interim Corrective Action:

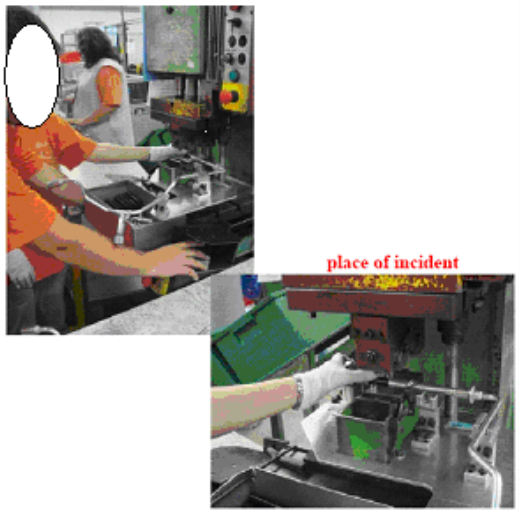
- *Safety Stand down with all employees, documentation and signature.*
- *review of Risk Assessments & working instructions*
- *disciplinary action*

Permanent Corrective Action:

- *verification of all working instructions & procedures*
- *daily audit of compliance*
- *replace old against new Safety symbols and signs on assigned machines*
- *Additional training according to operating manual.*
- *Additional permanent actions under investigation*

Photo 1: crimping machine with two hand start buttons

Photo 2: Unsafe act **simulated**
2 operators are working on crimping-machine



Relevant EH&S Standard

- **Standard:** - Machine Guarding
- **Gap to Standard (Y/N):** - ***No***
- **Safety Violation (Y/N):** - ***Yes***

Key Learning Points

- *When a non-standard situation exists - inform supervisor or technologist immediately.*
- *Never bypass safety equipment and/or ignore safe operating instructions.*
- *Machines with two hand controls protect one person. If 2 people must work in a machine use light curtains or other appropriate safety equipment.*

Date & Time of Incident: 05/12/09 10:00 am

DRS Incident number:

Incident Description:

- *Employee attempted to adjust PCM module in nest and grasped the module in the top right corner instead of grasping the side of the module. Hand placement on module put right index finger between the module and programming head assembly. In the split second that the employee's hand was in this position, the program head cycled and closed onto the PCM module trapping the employee's right index finger between them. E Stop was hit that released air pressure on the program head which was then pushed back to free the finger. X rays showed 2 small fractures to the finger, which was splinted. Program operation has been in operation for approx. 12 years, operator on this job over 1 year. Employee does not know why she grasped module in way that she did – it's not normal practice nor is it a natural hand position. Employee is back on this job with no restrictions or lost time.*
- *Photo notes: Red arrow indicates approx. finger position. Nest tray slides left and right to facilitate loading and unloading to the side of the program position.*

Additional information:

- **Witness (Y/N): - Y**
- **Supervisor informed (Y/N), when? – Y, immediate**
- **First time occurrence (Y/N) – Yes**

Safety Incident Information:

- **Injury Type: Fracture -**
- **Affected Body Part: - index finger**
- **Estimated lost days: - none**
- **Repetitive disorder (Y/N) - *N***

Immediate and Root Cause

Flag (highlight one) :
Incorrect hand placement.

Interim Containment Action:

-Reviewed incident with other employees assigned, reminded and demonstrated proper hand placement and reasons for program head engaging delays.

Permanent Corrective Action:

- New guard was designed and installed within 28 hours. Guard placement will be monitored to ensure change in hand position for module un/loading in nest does not cause other ergo issues.

Photo 1: accident / incident

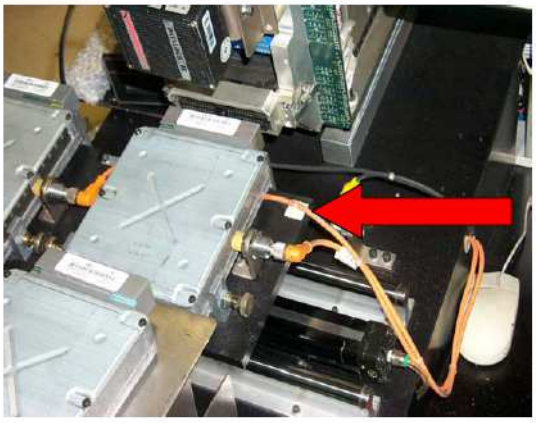


Photo 2: Program head in closed position with new guard installed.

Relevant EH&S Procedure/Standard

- **Standard:** - Guarding
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non-Conformance (Y/N):**

Key Learning Points

- *Highlight importance of proper hand placement – a momentary lapse in concentration can cause injury.*
- *When guarding is possible it will provide better protection than training.*
- *When a machine does not act as expected or is jammed do not place yourself at risk to correct the issue without assuring that it will not move. (ECPL and proper guarding are critical.*

Date & Time of Incident: Sept.19 2008 – 4:30PM

DRS Incident number: 7099

Incident Description:

The worker [redacted] suffered an accident. As he was working at a core builder machine, he tried to arrange a part of the fixture when he pressed the treadle. As a consequence of this, he cut a small part of his third phalanx, in the fourth finger of the left hand.

Additional information:

- **Witness (Y/N):** N
- **Supervisor informed (Y/N), when? –** Y (at the moment)
- **First time occurrence (Y/N) –** Y

Safety Incident Information:

- **Injury Type:** LTA - Cut
- **Affected Body Part:** - 3rd phalanx - 4th finger – Left hand
- **Estimated lost days: -** [redacted]
- **Repetitive disorder (Y/N)** - N

Environmental, Incident Information:

- **Incident Type: -**
- **Media: -**
- **Agency Notification Required (y/n) : -**
- **Impact: -**

Immediate and Root Cause

Flag (highlight one) :

*Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

Interim Containment Action:

The machine is not being used.

Permanent Corrective Action:

- *Maintenance people will put a double hand buzzer for the operation of the machine.*

Photo 1: Core Builder Machine

Photo 2: Acrylic to prevent hand damage

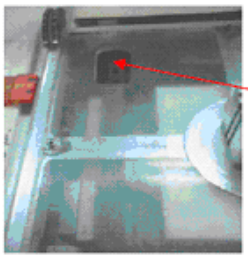


Photo 3: Example of the action

Relevant EH&S Procedure/Standard

- **Standard:** - N
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non- Conformance (Y/N):** Y (The worker pressed the treadle, with his finger inside)

Key Learning Points

- *Although the machine has an acrylic protection and a treadle, it is not enough as the operator can put one finger inside it if he is not paying attention.*

Date & Time of Injury: 29/01/2008, 23:10

Incident Description:

While being trained to perform an operation, the employee laid on the 2nd station's device of the machine and when this was put to work, the device strained his right hand ring finger and produced a cut.

Additional information:

- *Witness (Y/N):* ***Y Co worker***
- *Supervisor informed, when:* ***immediately***

- **Injury Type:** *strain & cut*
- **Affected Body Part:** *ring finger right hand*
- **Estimated lost days:** 14

Root Cause

Flag: *Environmental /* ***Safety*** */ Ergonomic / Fire / Occup. diseases*

Substandard Condition: *N/A*

Interim Corrective Action:

There were placed signs on the proper use of the machine.

.

Permanent Corrective Action

- *We have requested the separation of the second position, which was planned to be done shortly.*
- *Install a blocking system, a separation for the unused position.*
- *Place warning signs on the unused section.*
- *Place signs on the proper use of the machine.*

Photo:

Station 1 Station 2

Triggering Device

Action Device

Relevant EH&S Standard

- **Standard:** *N/A*
- **Gap to Standard (Y/N):** *N*
- **Safety Violation (Y/N):** *Y*

Key Learning Points

- *The employees need to receive training about the process before starting the new job.*
- *Updating the signs and warnings for this operation.*
- *Twin-action machines must be protected and properly separated form each other.*

Date & Time of Injury: March 25, 2009, 5:50 pm

Incident Description:

The operator did not follow endforming machine operating instructions while he was running the machine. He placed fitted parts with right hand as the machine was still cycling and he injured his right thumb.

Additional information:

- *Witness (Y/N):* **Y**
- Supervisor informed, when: **immediate**

- **Injury Type:** Pinch
- **Affected Body Part:** Right thumb
- **Estimated lost days:** One month

Root Cause

Flag: Environmental / Safety / Ergonomic / Fire / Occup. diseases

Substandard Act:

1. The product was made with a new endforming technique using a manual feeing method.
2. The operator did not follow safe operating instructions.

Substandard Condition:

1. Light curtain not functioning since Feb 24, 2009. Side guards to machine also not present.

Interim Corrective Action:

Team leader will summon endforming team for accident and safety training, and will be conducted for all operators stressing importance of obeying safety rules.

Permanent Corrective Action

1. Add endforming operating rules into safety training and checklist. 2. Make feeder to replace current manual feeding mode. 3. Replace the light curtain to prevent risk of operating approaching cycling machine.

Photo:

Fitting parts input position

Relevant EH&S Standard

- **Standard:** Machine Guarding/Risk Assesment
- **Gap to Standard (Y/N):** N
- **Safety Violation (Y/N):** Y

Key Learning Points

- Employee must follow safety rules regarding powered machines
- Makes sure all equipment and machine are functioning properly, including safety guard and controls
- Enhance safety walks and risk assessments to identify safety hazards.

Date & Time of Injury: 01/12/2008 03:20*pm*

Incident Description:

On FDS B2E Diesel 20 Station the operator was performing a normal operation. She started the machine with two palm buttons and was waiting that the machine opens automatically. When the tools came back her right hand little finger jammed between the standing and moving parts of machine (See Photo 1)

Additional information:

- *witness (Y/N):* *No*
- *supervisor informed, when:* *at once-*
- ***Flag:*** *first time or repetitive disorder: first time*

- **Injury Type:** **Fracture**
- **Affected Body Part:** **Right hand little finger terminal phalanx-**
- **Estimated lost days:** 10 days

Root Cause

Flag: *Environmental / Safety / Ergonomic / Fire / Occup. diseases*

The safety guard was missing (See Photo 2). It was removed earlier during a maintenance work.-

Interim Corrective Action:

Put the safety guard in place. Review all similar machines in this area. Training for all employees about the circumstances of accident and daily review.

Permanent Corrective Action:

Modify the Daily Checklist and QPS (Operator Aid) Establish a detailed Training aids for performance of daily check.

Photo 1: accident / incident

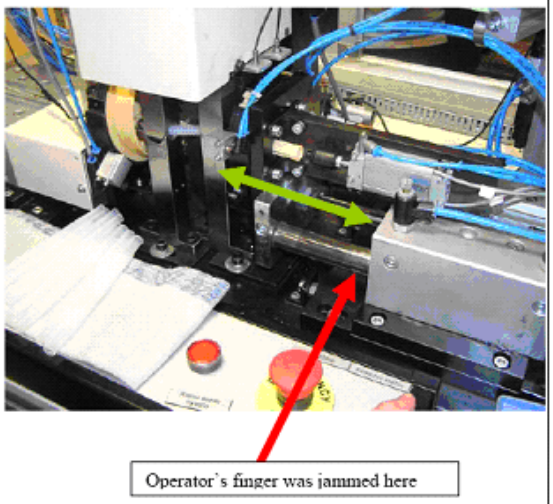
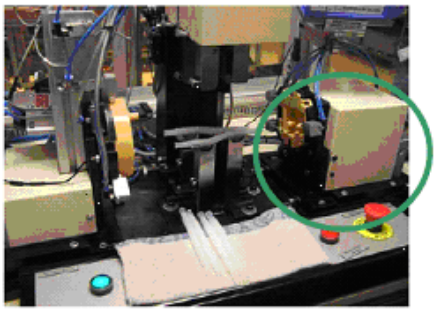


Photo 2: The safety guard is in place



Relevant EH&S Standard

- **Standard:** Machinery Safety Requirements, Alba General EH&S Rules, Daily Review-
- **Gap to Standard (Y/N):** No
- **Safety Violation (Y/N):** Yes

Key Learning Points

- *Need to provide refresher training for maintenance guys about their responsible after the repairing works.*
- *Will be in December a refresher training (scheduled) for all employees about the machine safety devices*
- *The people who made violations in accordance with accident will be disciplined*

Outros

Date and Time of Injury: February 16, 2008 - 12:20 Horas

Problem Description

The Employee was working at flow coater loading area, in BAT system, [redacted] during machine stoppage did not load parts in the flow coater, and the equipment became empty (no parts in the system), he decide to remove fall off parts from the machine inside, (without any authorization), he tried to remove parts with a special hook but machine was not properly stopped and he got dragged by the empty fixture and it cause this injury (Scratch in his back and right hand sprain).

Interim Corrective Action

Talk to all employees about this accident around this area.
Take to get medical valuation about his injury.
Reinforce how to use property work wear.
Create safety alert about procedure to remove fall off parts.
Reinforce training about safety alert.
To implement a fence between worker a main entrance.

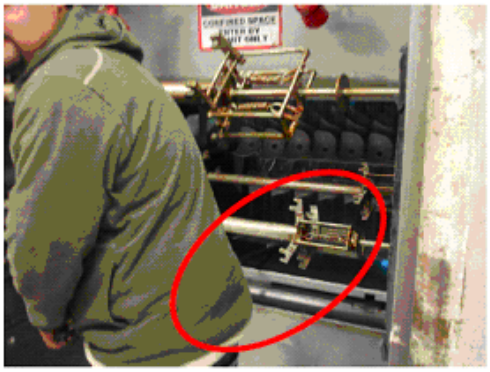
Root Cause

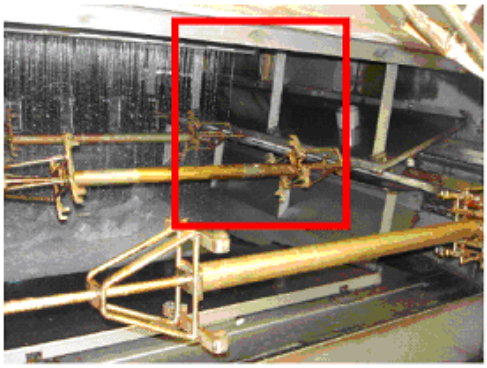
- Employee didn't inform to his supervisor over a non routine practice
- Inappropriate wear of shirt uniform.

Permanent Corrective Action

- Create a specific procedure to perform operation.
- Improve tool design used to remove fall off parts.
- To implement a fence between worker a main entrance.

Photo (s):





Key Point Summary

- *Perform cleaning with machine operating.*
- *Do jobs without authorization.*
- *Fail to use power lockout procedure.*
- *Proper wearing*

Key Learning Points

- *Ensure all people wear property*
- *Evaluate similar equipments.*
- *Evaluate similar operations*

Date and Time of Injury: April 21, 2008 @ 07:15 am

Problem Description:

In order to remove adhesive purge residues from application machine an operator must bow down. When she stood up, her head hit against printer frame.

Aditional Information:

- Supervisor Informed (Y/N): Y
- Repeat Injury (Y/N): Y
- Injury Type: Contusion
- Affected Body Part: Head
- Estimated Lost Days: 4 days

Root Cause:

Inadequate Engineering (reduced space by relocation of equipment)

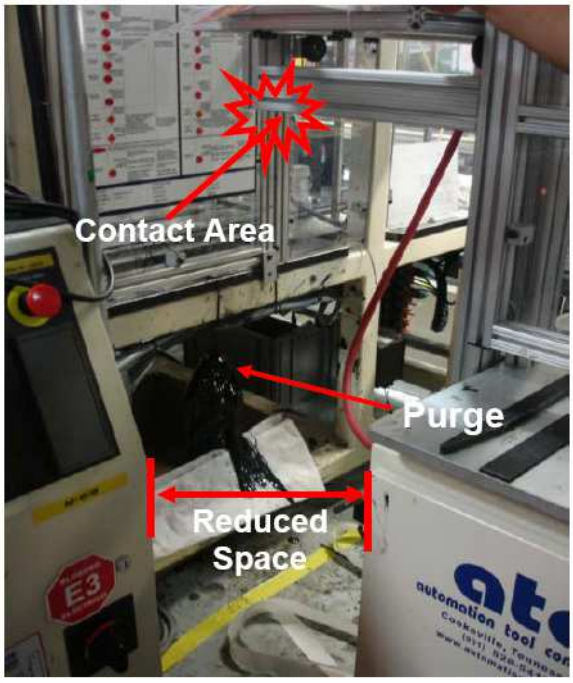
Interim Corrective Action

Printer frame was relocated away from purge dispenser zone to avoid any interference when removing the purge.

Permanent Corrective Action

- Relocated electrical panel to allow operator to do this job without any interference.
- Verify that the corrective action is used in all different adhesive purge removal operations at the plant.
- Local procedures MSI-IN-19 must call for an approval signoff by all departments involved prior the implementation of a change.

Photo (s):



Relevant EH&S Standard

- Standard: - Change Managementt
- Gap to Standard (Y/N): - *Y*
- Safety Violation (Y/N): -*N*

Key Learning Points

- There was no evidence of a layout approval as called for in Local procedure MSI-IN-19.
- Local Procedure MSI-IN-19 should call for signoff of layout before change implementation.

Date & Time of Incident: May 28th 2009 14:45

Incident Description:

At about 14:45 on May 28, employee was pre-loading the panel. Since the coil spring of jig dowel pin did not function and the distance between clam bucket and panel was too long, the panel got loose and fell from the jig and fixture. The panel and the jig system were sent from the supplier. Employee supported the panel with his hands that lead his right hand injured.

Additional information:

- **Witness (Y/N): Y**
- **Supervisor informed (Y/N), when? Y, 16:00 1/6/2009**
- **First time occurrence (Y/N) Y**

Safety Incident Information:

- **Injury Type: Fracture**
- **Affected Body Part: Right hand (the 5th metacarpal)**
- **Lost days: 60 days (comply with GBT15499-1995)**
- **Repetitive disorder (Y/N) N**

Immediate and Root Cause

1. The coil spring of jig dowel pin broke down and the self-locking did not function. So the jig and fixture system with the panel over rotate by the gravity.
The supplier was asked to repair the coil spring on May 20, but the maintenance Dept. of the supplier did not fix it because they were lack of the spares.
2. The distance between clam bucket and panel was too long that makes the panel got loose and fell from the jig and fixture by over rotation.

Flag (highlight one) :
Environmental / **Safety** / *Fire* / *Occup. diseases*

Interim Containment Action:

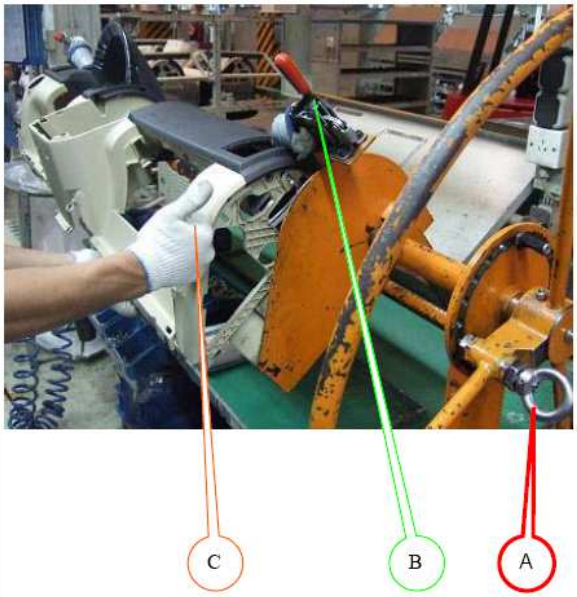
1. Sent the injured person to the hospital immediately;
2. Ask the supplier to fix the coil spring of dowel pin.

Permanent Corrective Action:

1. The maintenance Dept. of the supplier added the permanent limit on the jig to avoid over rotation even the self-lock does not function **(May 30th)**.
2. Required every operator to do the inspection of the jig and fixture system before pre-loading. Notify the supplier if there is any problem and ensure that has been fixed **(from June 1st)**.
3. Ask the supplier to keep enough spare parts **(June 2nd)**.
4. Required the supplier to adjust the distance between clam bucket and panel **(June 5th)**.

Photo 1:

A. The coil spring of jig dowel pin from the supplier did not function.
B. Because the distance between clam bucket and panel was too long, the panel got loose and fell from the jig and fixture by over rotation.
C. The operator supported the panel with his hand to prevent the panel from falling to the ground.



Relevant EH&S Procedure/Standard

- **Standard:** N
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non-Conformance (Y/N):** N

Key Learning Points

-Enhance the risk investigation for the tooling, fig, tool and working environment of the suppliers.
-Avoid using anything that breaks down even if it is from the suppliers.

Date: 10/13/2007
Time: 1 am

Description of Work Performed:

The forklift driver was preparing metallic conditioning unit on a workplace station.

Description of Incident:

-

The forklift driver was preparing some conditioning units at the X32 workplace station. For that, he opened 3 of the 4 metallic gates of one unit. During the opening of the third gate, he was inside the conditioning unit. After that, he tried to remove the fourth gate to leave the access of the unit free to load pieces of X32 process. He didn't succeed to remove this gate but he left it opened in despite the gate was functioning normally. As he was inside the unit, he get over the gate of the unit and his right foot struck the gate and he felt on his left knee.

Injuries:

--

Pain on his left knee – 5 days off

Photo:

Key Point Summary

- Bad practices used by the forklift driver to open the gates
- Inattention of the forklift driver to get over the conditioning unit

Key Learning Points

- Reminding of the good practices to open this kind of gate – learning lesson –
- Reminding of the procedure in place in case of the non conform gate : if a conditioning unit is not conform, the worker don't have to use it – learning lesson –

Date: 24-11-07
Time: 14:30

Description of Work Performed:

Description of Incident:
During disassembling process of an interrupter pole (photo1) the base of the interrupter tilted up and caused a cut injury as the technician try to keep hold on with the right hand. The injury has been caused by the screws, to attach the pole at the pneumatic pipe.

Injuries:
Superficial cut injury finger right hand.
Injury has been treated with a suture, 10 stitches.

Photo:

Key Point Summary

1. The base of the interrupter was dismantled , the operator was expecting that the electrical cable could sustain the interrupter.
2. It complicated the use of gloves by the work to be done.
3. The screws are not protected with plastic covers

Key Learning Points

1. Risk Assessment for specific jobs need to be done.
2. clear Safety procedure for this job must be set and strictly adhered to stabilize the interrupter.
3. second operator should be there in stand-by position.
4. In these installations all screws should be protected with plastic covers
5. Plant engineering must be informed about this incident and trained in Safety Rules & Procedures

Date: May 9, 2007

Description of Accident:
A forklift driver dismounted wrongly from his forklift witch resulted in a twisting ankle.

Consequences :
Ankle strain

Estimated Lost day's :
26 day's

Key Point Summary

Employee was adequate trained

Not respected the safety rules.

Key Learning Points

Go down a forklift correctly :

- in front the forklift
- Put correctly your feet on the step
- Use the handle
- Use safety ankle boots for forklift driver

Monitoring by supervision (Zero Tolerance approach)

Date : October 19, 2007
Time: 4:20 PM

Description of Work Performed:
Operation Department employee fell after changing height of chair.

Description of Incident:

After operator of operations department changed the height of the chair, she went to sit. When she went to sit down, the chair slid and she fell to the ground. She felt some pain in her lower back and went to Songjian Hospital.

Injuries:
A subsequent visit rendered a diagnosis of a break of the S5 vertebrae (broken tailbone). Return date estimated currently at November 20, 2007.

Photo(s)**:**
Chair employee slipped from.

Key Point Summary

- 1. Pay attention and check to see if the chair is stable.
- 2. Ensure the chair location is suitable.
- 3. Sit down slowly.
- 4. Chair height should be suitable.

Key Learning Points

- 1. training to all employee;
- 2. Strengthen safety supervision.

Date: *on Jul 9th 2007*
Time: *13:20*

Description of Work Performed:

The employee was assembling the fog lamp board of bumper.

Description of Incident:
-
At 13:20 Jul 9th 2007, employee in bumper polishing area was assembling the fog lamp board of bumper. His lift hand hit the eyelet of board due to carelessness. At that time, his wrist only feel painful and it still could move, so he didn't pay much attention.

In the afternoon of Jul 10th, employee found that his left wrist red and swelling and it's difficult to move. And then, he quickly reports to group leader and driver of company send him to hospital.

Injuries:
--
After check, doctor found his cartilage was fractured and mismatched. Employee said before he entered into [ ], his left wrist had been injured.

Photo:

Key Point Summary

1、Working procedure needs to improve

We use the working procedure that putting the fog lamp board into bumper and the possible risk to hand is estimated insufficiently.

2、No regulations are made to regulate which part of body is allowed to touch the products in assembly.

No regulation is made to identify which part of worker's hand could touch the fog lamp board in assembly. So it may cause the improper posture in assembly.

3、No protection equipments in wrist

No protection equipments in Worker's wrist and work's hand hit the board directly.

4、Worker's hand has been injured before

This worker's hand has been injured before, so he is not suitable to do this kind of job.

Key Learning Points

- *Change the assembly method of bumper polishing area and use rubber hammer to assemble board to avoid direct contact between worker's hand and assembly parts.*

Trabalhos em altura

Date & Time of Injury: 26.Sep.2008 / 10:00 am

Accident Description:

The employee wanted to push a switch on the injecting moulding material hopper. He does not use the ladder when he climbed up the injection unit. He slipped and felled (approx. 60 cm) on the floor!

Additional information:

- *witness (Y/N):* ***Y***
- *supervisor informed, when:* ***immediate***
- ***Flag:*** *first time or repetitive disorder:* ***first time***

- **Injury Type:** *contusion & laceration*
- **Affected Body Part:** *thigh & back*
- **Estimated lost days:** 10

Root Cause

- *Unsafe work*

Interim Corrective Action:

Safety talk to all employees!
Discipline action!

Permanent Corrective Action

> Re-instruction of all employees on a regular basis via safety talks

Photo 1: injecting moulding machine!

Photo 2: re-enactment of the accident!

Relevant EH&S Standard

- **Standard:** : *-yes*
- **Gap to Standard (Y/N):** *-yes*

Safety Violation (Y/N): *-yes*

Key Learning Points

- *Zero tolerance to unsafe action during safety walks!*
- *Ladder handling training for all tool-setter and maintenance people!*

Date & Time of Incident: October/22/2008

DRS Incident number:

Incident Description:

Per procedure, the employee had begun to tie down an extension ladder at floor level prior to climbing. As he bent over to grab the tie down rope the base of the ladder slipped out and the ladder fell and rested on a plant air compressor. Because employee was bent over under the ladder as it fell, the lower portion of the ladder hit the employee in the back below the waist. Francisco was taken to the hospital for X Ray which confirmed a pelvis fracture.

Additional information:

- Witness (Y/N): yes
- Supervisor informed (Y/N), when? Immediately
- First time occurrence (Y/N) – yes

Safety Incident Information:

- Injury Type: - Linear fracture
- Affected Body Part: - ischium
- Estimated lost days: - 35 days
- Repetitive disorder (Y/N) –no

Immediate and Root Cause

Flag (highlight one) :

*Environmental/ **Safety** / Ergonomics / Fire / Occup. Diseases*

Employee was taken to the hospital for diagnosis and treatment

Root Cause:

Ladder slipped either from pulling on the tie down rope or bumping the ladder. Procedure does not call for two people to set up a ladder but only to support climbing.

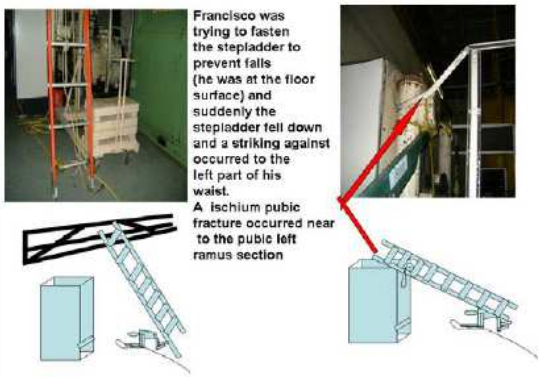
Interim Containment Action:

Work was stopped. Ladder was removed and inspected. No issues found.

Permanent Corrective Action:

Current procedure for extension ladder use only calls for a second person to assist and hold the ladder upon climbing of the ladder. Procedure will be changed to include a second person to assist at all times which would include setup of the ladder. Procedure will be changed by October 27th 2008.

Photo 1: accident / incident



Relevant EH&S Procedure/Standard

- Standard: - Safety
- Requires Change to Standard (Y/N): YES
- EHS Violation or Non - Conformance (Y/N): N

Key Learning Points

- *Use additional personnel to support and assist tasks that require the use of large extension-ladders also during setup, not just while climbing*

Date & Time of Injury: *01/07/08 10H30*

Incident Description:

When the operator prepared to take out the "blocked feed" on the moulding machine N°10001. She took the ladder fixed with a hook on the moulding machine N°10002, and used it on moulding machine N° 10001 without any system to fix it. Her foot was at 60 cm up to the floor. The ladder slipped on the floor and She fell down on her elbow.

Additional information:

- *Supervisor was informed immediately and provided a system to fix the ladder on this machine.*
- **Flag:** first time
- **Injury Type:** **fracture**
- **Affected Body Part:** **- Elbow**
- **Estimated lost days:** ***-15 days***

Root and Immediate Causes

Flag: Safety

Training – The employee should not have used this ladder since it needs to be fixed with a hook.

Interim Corrective Action:

- Immediately a system to fix the ladder was installed.

Permanent Corrective Action:

- review and secure all access in height (for, operators, moulding machine adjuster, maintenance…)

Photo 1: accident

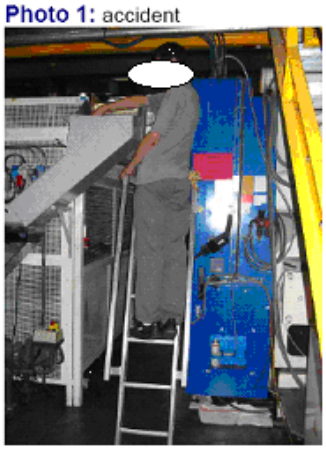
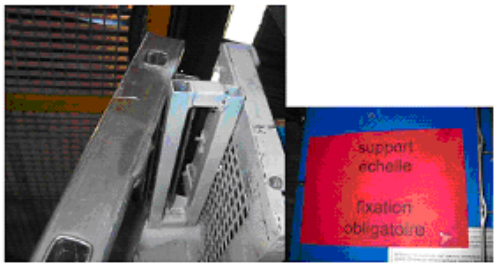


Photo 2:
1 A system in order to secure the ladder was installed
2 the obligation to use a fixed the ladder is now posted



Relevant EH&S Standard

- **Standard:** -Yes *Working at Heights*
- **Gap to Standard (Y/N):** - Y
- **Safety Violation (Y/N):** - Incorrect ladder use

Key Learning Points

- *Review all machines which required for maintenance access via ladders, that a hook has been attached.*
- *When appropriate install for saver access a platform (for operators, moulding machine adjuster, maintenance…).*
- *Ladder handling training for all tool-setter and cleaning staff. Addressing ladder use and selection*

Date & Time of Incident: September 16th 2008 15:10

Incident Description:

At 15:10 on September 16, a non-load-bearing roof caved in when two employees were doing some clean up on the roof. They fell from the roof onto the ground. Mr. Yao Jun is OK and in good condition. Mr. [redacted] two bottom ribs on right side were broken and got fracture.

Additional information:

- **Witness (Y/N):** Y
- **Supervisor informed (Y/N), when? Y, 11:00 a.m. 17/9/2008**
- **First time occurrence (Y/N) Y**

Safety Incident Information:

- **Injury Type:** Fracture
- **Affected Body Part:** Chest (two bottom ribs on right side)
- **Estimated lost days:** 110 days
- **Repetitive disorder (Y/N) N**

Immediate and Root Cause

1. Some sundries were put on the non-load-bearing roof.
2. The employees lack safety consciousness.
3. Lack of the safety training to the operators.
4. There is no safety caution symbol on the roof that warns the people can't stand on.

Flag (highlight one) :

Environmental / **Safety** / *Fire* / *Occup. diseases*

Interim Containment Action:

1. Fix the roof.
2. Put up the caution on all of the non-load-bearing roofs and avoid anyone standing on.
3. Forbid to put anything on the roof.

Permanent Corrective Action:

1. Finish and improve the SOP of every operation and equipment and put it into action immediately.
2. Strengthen the safety training of the employees and the inspection on site to enhance employee's safety consciousness.
3. Carry on a safety inspection of all the non-load-bearing roofs, strictly forbid to put any miscellaneous goods on it and put up the caution marking.
4. Perform the investigation of non-load-bearing roof and the hanging chain protection net made of the foam aluminium in the plant. Add some bearing reinforcing bar or some other protection.

Photo 1:

Relevant EH&S Procedure/Standard

- **Standard:** [redacted] **High Work Management**
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non-Conformance (Y/N):** N

Key Learning Points

- Improve the management and training for the high work operation.

- Pay more attention to the non-loading-roof and put up the cautions.

Date:-17th of October 2007
Time:- 4:15 pm
Estimated lost days:- 10
Estimated Date of Return:-05/11/2007

Cause:-no protection against mold degas.
[Safety / Ergonomic / Motivation / Occupational Disease]

Description of Work Performed:
A mold is returned to the tool room for maintenance. Checking of the heating system.

Description of Incident:
When the temperature sensor displayed 150°C, suddenly the mold degassed, there was a projection of hot polyamide 6.6. Several operators / engineers around the mold. One of them received hot material on his body.
First aid is made at the medical department, but he needed to be transferred to hospital for further investigation.

Immediate corrective actions:
Build a plate that can be installed in front of mold nozzle, held by magnets for steel molds and covers for multiple nozzles.
Train / inform the 5 shifts

Affected Body Part:- **hands**
Injury Type:- **Heavy Burning**

Photo(s):
Mold 44ZD5986

Protection plate built to avoid burnings

Key Point Summary

- **No physical protection available to avoid plastic projection in case of degasses.**
- **Lack of PPE usage.**

Key Learning Points

- **Install physical protections and safety labels.**
- **Perform a 5 min safety talk to the operators involved with plastic to remind PPE usefulness.**

Date and Time of Injury: 9/18/07 8:00 AM

Problem Description: Employee tried to align a conveyor belt while it was still in motion with his hand and looked away as he gripped the belt and his fingers got caught between the belt and roller. There is a safety switch that turns the conveyor off when parts reach the end of the line and the employee was reaching behind the safety device, had he been in front of the device the injury would not have occurred.

Interim Corrective Action: Instructed operator not to attempt adjusting the belt with their hands and never reach behind the safety stop.

Root Cause: There was not enough guarding on the equipment and the employee was reaching behind the safety stop.

Permanent Corrective Action: Additional guarding will be fabricated for the equipment and employees have been retrained not to get anything off the belt while the belt is in motion.

Photo:

Key Point Summary

- Machine should have had more guarding
- Employee should not have reached behind the safety device.
-

Key Learning Points

- *The equipment had been in operation for over two years without an incident but we should have discovered the issue prior to an incident.*
- *Never ever relax when it comes to safety.*
-

Circulação em superfícies

Date & Time of Incident: 05/30/2008 11:00 *am*
DRS Incident number: 6275

Incident Description:

Female stepped off a ladder on to the floor and slipped on a plastic gate. When she fell, she struck the back of her shoulder and strained her neck in the effort to avoid striking her head.

Additional information:

- *Witness (Y/N): No*
- *Contact:*
- *Supervisor informed (Y/N), when? Yes, 11:05 a.m.*
- *Has this occurred before? (Y/N) Nt.*

Safety Incident Information:

- Injury Type: - *Fall of different level*
- Affected Body Part: -*Right shoulder and Neck*
- Estimated lost days: - *4*
- Repetitive disorder (Y/N) – *No.*

Immediate and Root Causes

Flag (highlight one) :
Safety
- Poor Housekeeping

Interim Containment Action:

- *Safety talk covering the accident*
- *Housekeeping in the area*

Permanent Corrective Action:

- Implement the new mold of EN114 rolling operation to eliminate semiautomatic requirement to climb stairs

Photo 1: accident / incident

Relevant EH&S Procedure/Standard

- Standard: - Housekeeping
- Requires Change to Standard (Y/N): *No* -
- EHS Violation or Non-Conformance (Y/N): *Yes*
  - Non-conformance – Poor housekeeping

Key Learning Points

- *Always maintain housekeeping the work area.*
- *Avoid operation on semi-automatic machines for long periods.*

Date & Time of Injury: *11/ 06/ 08 13:40 p.m.*

Incident Description:

When walking from the cloak room downstairs the operator slipped on the first step and suffered at bad pace a middle contusion of left ankle. Operator wore safety shoes, the floor and stairs without visible dirt, oil or wet surface.

Additional information:

- *witness (Y/N):* ***Y*** */ assy line operator /*
- *supervisor informed, when:* ***Y - asap***
- ***Flag:*** *first time or repetitive disorder:* ***first issue***

- **Injury Type:** ***contusion***
- **Affected Body Part:** ***left leg / ankle***
- **Estimated lost days:** ***11 days***

Root Cause

Flag: Environmental / ***Safety*** */ Ergonomic / Fire / Occup. diseases*

Inattention

Interim Corrective Action:

- Repeated regular safety training
- Inspection of housekeeping of stairs, corridors, etc.

Permanent Corrective Action:

- Implement an extra chapter about pedestrian safety for Input safety training .

Photo 1: incident

Slip & fall on the first step
(illustration photo)

Relevant EH&S Standard

- **Standard:** - ***N***
- **Gap to Standard (Y/N):** - ***N***
- **Safety Violation (Y/N):** - ***N***

Key Learning Points

- Permanent observance of all safety rules for pedestrians
- Regular inspection of housekeeping and relevant marking of unsafe spaces / see Visual Management /

Date & Time of Injury: ***14/ January/08:30 am***

Incident Description:

One of the employee from the Fuel Pump Production area went back from the cafeteria to her workplace and tried to make short cut using a door to outside of the building. After opening the door as she stepped out from the building, she slipped on the icy concrete and fell onto her right hand arm. Weather was sleety and freeze, so there was a 3 mm thick ice on everything outside the building.

Additional information:

- *witness (Y/N):* *No*
- *supervisor informed, when:* *at once*
- ***Flag:*** *first time*

- **Injury Type:** **fracture-**
- **Affected Body Part:** **right wrist** (radius & ulna crashed)
- **Estimated lost days:** 30 work days-

Root Cause

Flag: *Environmental / Safety / Ergonomic / Fire / Occup. diseases*

The area outside of the building was icy because of sleety weather which has started to fall 30 minutes prior to the accident and that door was not supposed to use for normal pedestrian traffic.

Interim Corrective Action:

The walking surface was de-iced and signs for slippery hazard were added to other doors like that. Plant employees were notified about the proper using of the pedestrian walkways inside and outside of the buildings.

Permanent Corrective Action:

All doors including emergency and not frequently used doors will have de-icing material and security will make sure that in case of extreme weather conditions (sleeting, freezing…), the outside area of the doors are de-iced and production teams/team leaders are notified.

Photo 1: accident scene

Slip point

Relevant EH&S Standard

- **Standard:** -
- **Gap to Standard (Y/N):** N
- **Safety Violation (Y/N):** -

Key Learning Points

- *On first week was provided a message about "Health and Safety Start Up" to all employees via News Letter.*

Date & Time of Injury: March 22, 2008 - 19:45 p.m. Hours

Incident Description:

The worker who returned from cafeteria area was walking on vehicular way adjacent to the area of warehouse (market place) and short road walking on a freshly painted area not watching this condition sliding and dropping the same level on her back with impact in the back, hip and left arm

Additional information:

- **Injury Type:** *-Contusion*
- **Affected Body Part:** *- Back*
- **Estimated lost days:** *- 11*

Root Cause

Brief Summary:

- Employee did not use the pedestrian aisle ways.
- Areas where floor was being painted not marked.

Interim Corrective Action:

Talk to all employees about this accident.
Reinforce training PMHV for pedestrians.
Reinforce safe practices in work unusual as in the painting of floors.

Permanent Corrective Action:

Reinforce training PMHV for pedestrians.

Photo 1: Location of fall

Relevant EH&S Standard

- **Standard:** *-Yes*
- **Gap to Standard (Y/N):** *-No*
- **Safety Non-conformance (Y/N):** *Y*
- **Explain :** ***Failure to follow pedestrian markings***

Key Learning Points

- Reinforce training PMHV for pedestrians.
- Reinforce safe practices in work unusual as in the painting of floors.

Date & Time of Injury: *18 /05/ 2008 4am*

Incident Description:

The operator (female) was walking between two operating processes in order to prepare next products. She stumbled over one leg of a team board and felt down on the floor - see picture which caused a strong contusion of left shoulder .

Additional information:

- *witness (Y/N):* - *Y*
- *supervisor informed, when:* - ***immediately***
- ***Flag:*** ***first time*** *(or repetitive disorder:)*

- **Injury Type:** - **contusion with partial fracture**
- **Affected Body Part:** - **left upper arm**
- **Estimated lost days:** - **4-5 weeks**

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- improper attention
- two overhanging legs of the Team board of a pedestrians aisle

Interim Corrective Action:

- Extra safety training about safety rules

Permanent Corrective Action:

- To change a location of Team board or replacement through an other kind of board fixture on the floor .

Photo 1: accident

Relevant EH&S Standard

- **Standard:** - **N**
- **Gap to Standard (Y/N):** - **N**
- **Safety Violation (Y/N):** - **N**

Key Learning Points

- Permanent observance of all safety rules – zero tolerance for unsafe conditions and unsafe acts.
- Regular safety training and safety walk.
- Remove all of unwanted obstacles partially blocked the aisles for pedestrians.

Date & Time of Injury: ***09/22/2008 at 12.30pm***

Incident Description:

The operator was working on the non cadency workplace station of the moulding machine area This workplace station is composed of value added operation on parts but is not placed at the exit of the moulding machine. She went at the moulding machine N°8 to take a cardboard with parts to put it on her workplace. During the trip by step she hurts a plastic pallet that was on the floor (in the correct place) and she felt on the floor on her left arm.

Additional information:

- *witness (Y/N):* - ***Yes***
- *supervisor informed, when:* - ***Immediatly***
- ***Flag: first time*** *or repetitive disorder:*

- **Injury Type:** - ***Fracture***
- **Affected Body Part:** - **Left elbow**
- **Estimated lost days:** - ***10 days***

The pallet was on the floor correctly placed. Housekeeping was OK.

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- *Lack of visibility (cardboard on the arms)*
- *Non using of the equipment in place to transport the carboards*

Interim Corrective Action:

- *Communication to the operators on the accident and equipment to use*

Permanent Corrective Action:

- *EHS instruction at the workplace station on going for this workplace station : included the using of equipment for transport*

Photo 1: Accident situation

Photo 2: Solution

Relevant EH&S Standard

- **Standard:**
- **Gap to Standard (Y/N):** - ***No***
- **Safety Violation (Y/N):** - ***No***

Key Learning Points

- *Check in all the EHS instructions placed on the workplace stations for transport of conditioning unit*

Date & Time of Injury: ***09/01/08 AM***

Incident Description:

The operator would like to clean oil on the floor.
She would like to go through the oil to take a rag and she slept on it.

Additional information:

- **Injury Type:** ***-muscular injury***
- **Affected Body Part:** **- leg**
- **Estimated lost days:** ***- 4***

Root Cause

Oil on the floor

Interim Corrective Action:

Clean the floor
Contain the oil.

Permanent Corrective Action:

Responsabilisation of the management regarding the safety.

The plant manager meet the top management immediately. Such accidents involve the management of the area so the management must be more proactive on safety matters.
If safety standards are not achieved, discipline measures will be taken against the management.

Photo 1: accident

Relevant EH&S Standard

Responsabilisation of the management.

Daily safety walk.

Key Learning Points

Coordination with maintenance in order to repaire or contain immediately the oil (interim corrective action).

Date: 06/03/2007
Time: 0740

Description of Work Performed:

The setter was changing over the mould tool on machine 2.

Description of Incident:

The setter was exiting the access platform when he slipped down the stairs and fell onto his lower back.

The setter was holding on to the handrail during his descent.

He was treated by the first aider and then walked to see the Plant Doctor in the Occupational Health Department. He was taken to hospital and then sent home.

The stairs were examined and found to be contaminated with oil with patches where the non-slip coating had worn.

The employees' footwear was found to be contaminated with oil and dirt.

Injuries:
Contusion (bruise) to lower back

Photo: Shows worn non slip surface patches and residual oil contaminated pads on IMM2 access platform.

Key Point Summary

- **The cleaning regime for the access platforms needs to be controlled more effectively**
- **Employees need to report oil spills quicker**
- **Leaking machines need to examined and leaks prevented to reduce walkway contamination-**

Key Learning Points

- **The moulding machines need to be examined for oil leaks with remedial actions, that do not involve the use of oil absorbance, employed.**
- **Consideration needs to given to the potential for oil contamination when siting machinery**

Date: 27/11/2007
Time: 10:40

Description of Work Performed:
Collect signature for documents.

Description of Incident:

An employee from the quality area in the Compressors plant came to Electronics plant to collect signatures for RFS documents. When she was returning to the Compressors building, instead of using the pedestrian passage, went through an area with pallets (area to collect waste palettes) and tripped in a plastic strap. She lost the balance and fall down causing a fracture in the arm.

Injuries:
Arm fracture.

Photo:

Key Point Summary

- **Use improper passage**
- **Inattention**

Key Learning Points

- ***Reinforce the pedestrian passage rules.***
- ***Reinforce the need to have attention at all time.***
- ***Take disciplinary action when the safety rules are not followed.***

Date and Time of Injury: August 24, 2007 4:30 p.m.

Problem Description

Employee slipped on wet floor which did not have the proper warning signs. In addition the cleaning staff was mopping the floors during working hours instead of during the off shift. Upon investigation it was determined that this situation had occurred previously and Security and/or Facilities were not notified.

Interim Corrective Action

Cleaning Contractor reviewed the importance of using the wet floor signs and not mopping the floors during working hours at the facility

Root Cause

Failure to follow the procedure which required the posting of warning signs when cleaning staff washes floors.

Permanent Corrective Action

Cleaning Contractor has been instructed to not mop any floors before 5:30 p.m. Use of floor wet signage is imperative. Failure to comply will result in an employee disciplinary write up and entire staff re-training. The entire staff re-training is to dissuade non-compliance because their failure will affect the entire staff. Hopefully, fellow employees will consult fellow employees who do not comply because they do not want to sit through the re-training.
A communication will re-enforce the importance of reporting unsafe conditions to Visteon Village Security

Photo:
At time of Accident (Wet Floor without warning Sign)

Correct situation (Warning signs in place)

Key Point Summary

- Floors were mopped depositing a thin film of water
- Signs were not posted to warn of the slip potential
- An employee walked on the floor and slipped
- The employee fell and suffered a shoulder fracture

Key Learning Points

- Always post warning signs when floors are wet
- Do not wash floors during normal working hours
- Other employees had seen this situation in the past and not notified the security or facilities

Veículos Industriais

Date & Time of Injury: *02/21/2008 11:30 am*

Incident Description:

The operator at the moulding machine / middle-aged woman / walked from one to second machine through the designated pedestrian way. At this time she had to run around the forklift standing partially on designated way for pedestrian. She was running suddenly to the right side – but she forgot totally that in front of forklift are two fork blades, rolled down on the floor. She stumble over first fork blade and crashed by left arm into the pillar of plastic Chep pallets, resulting arm fracture. She was taken to hospital, immediately.

Additional information:

- *witness (Y/N):* ***Y – moulding machine setter***
- *supervisor informed, when:* ***immediately***
- ***Flag:*** ***first time*** *or repetitive disorder:*

- **Injury Type:** ***longitudinal fracture***
- **Affected Body Part:** ***left arm***
- **Estimated lost days:** ***2 – 3 months***

Root Cause

Flag: Environmental / ***Safety*** */ Ergonomic / Fire / Occup. diseases*

- ***improper parking*** *of electrical forklift on the way designated for pedestrians*
- ***carefulness /rashness/*** *of moulding machine operator*

Interim Corrective Action:

- *No forklifts and unauthorized objects on the side with designated way for pedestrian .*

Permanent Corrective Action:

- *Rigorous specification and designation of safety parking place for transport forklifts inside of production halls. (e.g. layout)*
- *Call an extraordinary safety training and highlight the safety appeal for pedestrian and drivers.*

Photo 1: accident

Forklift standing position - not permanently

- hit position as a result of operator falling (left arm)
- direction of operator´s walk

Relevant EH&S Standard

- **Standard :** ***Traffic rules modification***
- **Gap to Standard (Y/N) :** *Y*
- **Safety Violation (Y/N) :** *Y*

Key Learning Points

- *Permanent observance of all safety rules, incl. traffic rules.*
- *Daily safety walk or unscheduled inspection are needed . (speed limit, safety vest using, proper walking on pedestrian way, etc.)*
- *Employees should not work, walk, stay, in close proximity to forklifts , generally.*
- *Drivers should never lay up forklifts on designated way for pedestrian.*

Date & Time of Injury: *03/June /09:00 am*

Incident Description:

3 MHT's were talking about the morning tasks in front of the incoming quality table in the receiving dock. One other MHT was driving backwards with 2 pallets on the Hilo close to the 3 technicians and stopped the Hilo just about 1 m away from them heading towards the door distributing the materials. He turned back from the seat and exchanged couple of words with others and said goodbye and wanted to leave the dock with the pallets, but left the direction change switch in backward position. The Hilo instead of leaving the dock started to go backward towards the 3 technicians. 2 of them could jump away, but the guy in the middle could not. He jumped onto the top of the table but his left leg was crashed between the Hilo and the table. His left leg was broken (both bones) and ambulance took him to the local hospital.

Additional Information:

- *witness (Y/N):* *Y(5 colleagues)*
- *supervisor informed, when:* *Yes, at once*
- ***Flag:*** *first time or repetitive disorder:*

- **Injury Type:** **fracture**
- **Affected Body Part:** ***calfbone and brooch-bone***
- **Estimated lost days:** 180

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

-operational failure by the HILO driver

Interim Corrective Action:

-refresher training to MHT's

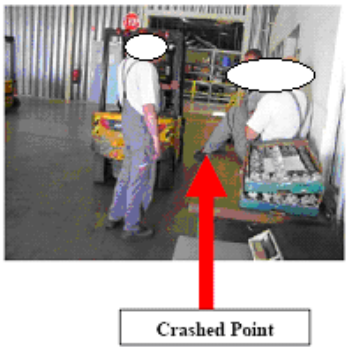
Permanent Corrective Action:

- install a protection bar in front of the area where any operation can be done or pedestrians can stay

Photo 1: accident/incident

Before accident (accident simulation)

HILO coming back (accident simulation)



Relevant EH&S Standard

- **Standard:** - HILO operation
- **Gap to Standard (Y/N):** ***-N***
- **Safety Violation (Y/N):** ***-Y*** Inattention

Key Learning Points

- *Drivers must pay appropriate care and attention to the operation of the HILO*

Date & Time of Injury: LTC-14-05-08 *00:40 am*

Incident Description:

The driver of electric pallet mover, approached to talk with an operator who was walking in the pedestrian walkway. By mistake, the driver lean on his arm in the machine and it starts to reverse backwards, the operator leg resulted caught against the barrier.

-

Additional information:

- Witness: Yes
- Injury Type: contusion
- Affected Body Part: Leg
- Estimated lost days: 15

Root Cause

Flag: Security: Unsafe action to the driver that invades the pedestrian walkway

Interim Corrective Action:

- *Prohibition approaching pedestrians when driving a vehicle*
- *Review hazards advertising in the area*
- *Cancel the machine driver permit + consider further disciplinary actions*

Permanent Corrective Action:

- *To install protective barriers at the pedestrian crossing & corridors, where possible*
- *Safety walks controls: check unsafe acts (operators do not remain and talk with others in pedestrian walkways)*
- *Safety Talk forklift drivers & pedestrians.*

Photos: accident / incident

Relevant EH&S Standard

- **Standard:** VCS-2 *Pedestrian and vehicles Safety*
- **Failure Standard (Y/N):** N
- **Violation of safety(Y/N):** unsafe action

Key Learning Points

- *Drivers must pay appropriate care and attention, and don't approach to pedestrians with the vehicle.*
- *Operators mustn't stand or talk in the walkways on traffic areas, or on other risky areas..*

Date & Time of Injury: *25 /01/08 - 06.50 am*

Incident Description:

-The operative was bending down pulling a packing strap up ready to bind a pallet of KLT's in row 1. The FLT driver placed a stack of pallets and KLT's 3 high in row three. The base of the pallet was damaged causing the pallets to topple over with the upper pallet falling down and striking the operator on his head

Additional information:

- **Witness (Y/N): Y – FLT Driver-**
- **Supervisor informed(Y/N): Y when: 07.00**
- **Repeat Injury (Y/N): No**

- **Injury Type: -*Contusion***
- **Affected Body Part: - *Top of head, Back, L Arm***
- **Estimated lost days: - *7***

Root Cause

(Highlight one): *Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

Brief Summary:

1) Pallets were received from supplier in poor condition.
2) Employee was working close to a forklift while it was moving a high load (3 high KLT pallets).

Interim Corrective Action:

No operators are allowed to bind pallets during the laying out process.

Staff briefed on revised system and need to inspect materials being delivered

Permanent Corrective Action:

EHS Manager – ☐ to liaise with Buyer and tell Chep we will not accept goods on damaged pallets

Photo 1: Boxes tipping off pallet

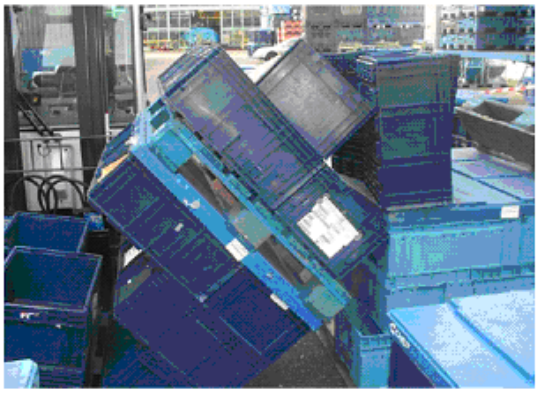


Photo 2: place of incident (adjacent aisle to photo 1)

Relevant EH&S Standard

- **Standard:** -No
- **Gap to Standard (Y/N):** -
- **Safety Non-conformance (Y/N):** *Y*
- **Explain :** ***use of damaged goods***

Key Learning Points

- *Transport materials need to be examined for wear and tear when accepting delivery*
- *Transport companies need to be reminded on the need to inspect and segregate damaged transport materials*
- *Employees should not work in close proximity to forklifts moving high loads.*

Date & Time of Incident: March 5, 2009

Incident Description:

- Driver moved trailer with red light being activated on outside of the dock. Driver accepted that he did not check if red light was activated, because he had received communication from Hi-Lo driver that load had been completed. Hi-Lo driver explained that he told trucker load was complete. Hi –Lo driver then was told to load two more containers, but activated the green light to red (outside). Minutes later, the driver comes to dock in order to remove trailer from dock without reviewing the visual confirmation of the dock light.
- It is important to note that the trailer bumper before the incident was defective. The bumper would not make good contact with hook, because bumper was damaged. **NO MECHANICAL ISSUES IN OUR DOCK.**
- The Hi-Lo didn't touch the ground but a 45 grades inclination was the final position.
- No injuries. A revision to the dock and Hi-Lo were performed.
- Diver will be penalized when we analyze all his history and accomplish with our procedures.

Additional information:

- *Witness (Y/N):* - *yes*
- *Supervisor informed yes when? – March 5, 2009*
- *Has this occurred before? (Y/N) – No*

Safety Incident Information:

- **Injury Type:** - *NO*
- **Affected Body Part:** - NO
- **Estimated lost days:** - *NO*
- Repetitive disorder (Y/N) - NO

Root Cause

Flag (highlight one) : PROCEDURES WASN'T ACCOMLISHED AT 100%

Interim Corrective Action:

- Supplier received the direction to review all their trucks and trailers boxes to ensure that their equipment meets safety standards.
- Driver will be disciplined.
- Hi- Lo drivers re-enforcement of procedures (at all Coclisa plants)
- Checked all the docks in all the plants but we will do it again to assure 100% conditions.

Permanent Corrective Action:

Contractor received the advice to review all their trucks and trailers boxes to assure excellent conditions to us to prevent this issue.

Photos:

Relevant EH&S Standard

- **Standard:** - Hi-Lo Procedure
- **Gap to Standard (Y/N):** - *Yes*
- **Safety Violation (Y/N):** - ***Yes, the truck driver left dock when the red light was on (signalling that the trailer should not be removed from the dock)***

Key Learning Points

- *Contractors have to be constantly supervised*
- *Safety reviews of Trailers, Docks, and Hi-Lo are important.*
- *All trailers should be inspected prior to backing into the dock to assure that the ICB Bar (bumper to which the dock lock attaches) is intact. If the ICB Bar is not intact special procedures to offload should be followed to assure that the trailer cannot depart*
- *Clear communications between the truck driver and the Hi-Lo driver are critical.*

Date & Time of Injury: LTC 20-Oct-08 *18:05*

Incident Description:

- *A fork lift driver was transporting a rack driving backwards, coming from a curve. The truck hit an operator on the pedestrian crossing. His lower leg was broken in two points. Ambulance took him to hospital.*
- *The truck was in perfect conditions, acoustic signal was on, driver had the proper accreditation and training (last time in nov-07)*

Additional information:

- Witness: Yes
- Injury Type: fracture
- Affected Body Part: Lower Leg

Estimated lost days: pending a medical report (40d?)

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

Driver unsafe action.

Interim Corrective Action:

- *An ambulance was called*
- *Disciplinary actions to driver.*

Permanent Corrective Action:

- *Paint STOP sign at pedestrian crossings*
- *Safety Talk to pedestrians.*
- *Refresh training to forklift drivers*
- *Review layout of pedestrian-trucks corridors*
- *Move pedestrian crossing away from the curve*

Photos: accident / incident

Relevant EH&S Standard

- **Standard:** *VCS-2 Pedestrian and Vehicle Safety*
- **Failure Standard (Y/N):** N
- **Violation of safety(Y/N):** Y, unsafe action

Key Learning Points

- *Drivers must pay appropriate care and attention, very especially at pedestrian crossings and corridors*
- *Review and deliver pedestrian traffic rules*
- *Avoid pedestrian crossings too close to curves*

Date & Time of Injury : 12March09

Incident Description :

The Hi-Lo driver(A) drew into hall and Hi-lo driver (B) drove out from hall. They didn't see via plastic curtain enough and they both collided by the Hi-Lo forks.
No injury, material/products or Hi-Lo were damaged.

Additional Information :

- witness / Y/N) - Y
- supervisor informed, when : - immediately
- ***Flag*** **:** first time or repetitive disorder : - first time

- **Injury type :** - no injury
- **Affected body Part :** - x
- **Estimated Lost Days :** - 0

Root Cause

Flag : *Environmental / **Safety** / Ergonomics / Fire / Occup.diseases*

No visibility due to dirty curtains. Improper maintenance

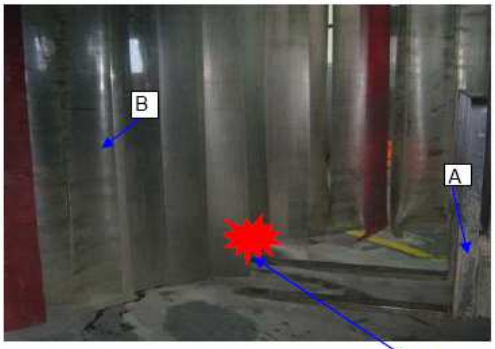
Interim Corrective Action :

change of soiled plastic curtains

Permanent Corrective Action :

New Manual for HiLo drivers
Regular safety training
Visible safety signs fixed on belts
Regular check of visibility during EH&S walks

Photo 1 : accident / incident



crash place

A - The Hi-Lo Driver goes into product.hall
B - The Hi-lo Driver goes out from product.hall
- both through the flying plastic curtain (belts)

Photo 2 : place of incident / work environment or corrective action

soiled plastic curtain (several plastic belts in a line)

Relevant EH&S Standard

- **Standard :** - Traffic Rules
- **Gap to Standard (Y/N)** - N
- **Safety Violation (Y/N)** - Y

Key Learning Points

- Permanent observance of all safety rules for Forklift Drivers .
- Revision of all suspicious and danger places with curtains to prevent next possible incident
- Regular reassessment of risk analyssis

Date & Time of Injury: *02/11 4pm*

Incident Description:

A forklift driver was putting in place a packaging on a metallic moving base. The packaging was not putting in place in good position and it felt on a side, hurting the elbow of the operator who was working on the workstation.

Additional information:

- *witness (Y/N):* Y
- *supervisor informed, when:* ***The 02/11 at 4pm***
- ***Flag:*** first time or **repetitive disorder**:

- **Injury Type:** ***Pain***
- **Affected Body Part:** ***Elbow***
- **Estimated lost days:** ***4 days***

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- *Forklift driver manipulation error*
- *Manipulation of a packaging near a workplace station*

Interim Corrective Action:

One point lesson : New procedure in place for this operation : the forklift driver has to do this manipulation in the forklift driver way.

Permanent Corrective Action:

- *Technical modification of the metallic base (to avoid the falling)*

Photo 1: Accident situation

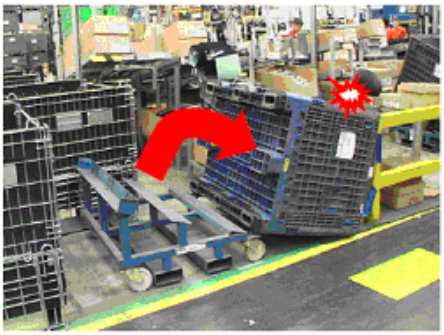


Photo 2: *Workplace station*

Relevant EH&S Standard

- **Standard:** Goods practices of manipulation
- **Gap to Standard (Y/N):** *Y*
- **Safety Violation (Y/N):** *Y*

Key Learning Points

- *General information for the plant on this accident – Supervisors – 02/12*
- *Disciplinary action against the forklift driver – 02/28 –*
- *Secure the potential same situations in the plant – 02/28*

Manuseamento Manual de Ferramentas

Date: June, 29th, 2007

Time: 3:00 pm

Description of Work Performed:
Door production area!

Description of Incident:
Mr. [redacted] wanted to pull an inhouse Trolley, loaded with doors for subsequent treatment, into another work area (Photo 2). During this job Mr. [redacted] pushed the right hand at a pylon (Photo 1 and 3).

Injuries:
Laceration at back of the hand

Photo:

Photo 1

Photo 2

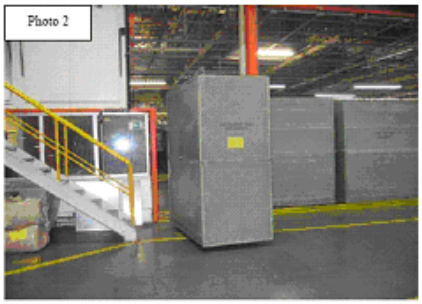
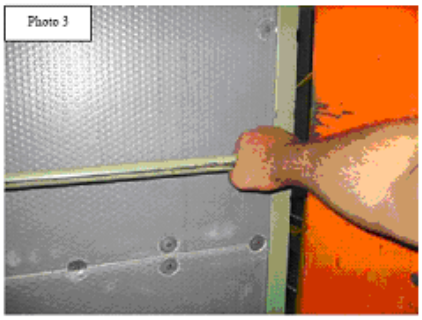


Photo 3



Key Point Summary

- *- The reason for this accident is the inattention of the worker.*
-

Key Learning Points

- *- Instruction by supervisor again!*
- *- Attach of guidances in the area of pylons*

Date & Time of Injury: 08/27/2008 11 am

Incident Description:

The operator was pushing full container to next production process. During manual handling this operator crashed into neighbouring container. It caused a contusion of the left wrist.

Additional information:

- *witness (Y/N):* - **Y**
- *supervisor informed, when:* - **08/27/2008**
- ***Flag:*** ***first time*** *or repetitive disorder:*

- **Injury Type:** - **contusion**
- **Affected Body Part:** - **left wrist**
- **Estimated lost days:** - **7**

Root Cause

*Flag: Environmental / **Safety** / **Ergonomic** / Fire / Occup. diseases*

- **Improper manual handling**
- **Design of holders**

Interim Corrective Action:

- Medical investigation by company physician.

Permanent Corrective Action:

- New design of container holders
- Review of risk assessment

Photo 1: accident

Illustrational photo

Relevant EH&S Standard

- **Standard:** - **N/A**
- **Gap to Standard (Y/N):** - **N**
- **Safety Violation (Y/N):** - **N**

Key Learning Points

- The design change of containers – new holders, should be verified and approved by relevant experts including safety engineer.
- Pay more attention while performing manual transport .

Date:06/11/2007
Time: 11h45 pm

Description of Work Performed:
The operator was taking some boxes – It is a normal operation.

Description of Incident:

The operator was taking the upper box. As she lifted the upper box from 20cm, the upper box slipped and felt onto her thumb.
The box weights about 5 kgs.

It was nothing in appearance very serious. She finished his shift. We believe at this time that it was a first aid.

The following day, she came back to the infirmary and said the pain is stronger.
She went to the hospital and has a broken finger.
She is in plaster.

Injuries:
left hand, thumb

Days off: 6 weeks

Picture:

Key Point Summary

- **- Behaviour**
- **- Lack of awareness**

Key Learning Points

- **- Behaviour**
- **- Lack of awareness**

Date & Time of Injury: 21/01/08/ 11.45 am

Incident Description:

-The outside areas Fork Lift Truck driver attempted to reposition a full 55l. drum of Pine Oil back onto the pallet. The driver pulled/rolled the drum back onto the pallet and in doing so his L/H index finger tip became trapped between the moving drum and a static drum, also full, trapping and severing the tip of his finger.

He was treated by the first aider and then taken to hospital.

Additional information:

- *witness (Y/): Veolia Dangerous Goods person -*
- *supervisor informed, when:11.48-*
- ***Flag:** first timer:*

- **Injury Type:** ***- Amputation***
- **Affected Body Part:** **- Index Finger – Left Hand**
- **Estimated lost days:** ***- Unknown at present***

Root Cause

***Flag:** / Safety / Ergonomic*

Interim Corrective Action:

Safety Awareness talk on unusual objects handling for Fork Truck Drivers

Permanent Corrective Action:

Promote use of barrel lifters and positioners

Photo 1: accident / incident

Photo 2: place of incident / work environment or corrective action

Date: July 18th 2007
Time: 15h45

Description of Work Performed:
Skilled worker

Description of Incident:
By moving the peripheral equipment of machine 33, and while turning, Mrs R was injured at her ankle.

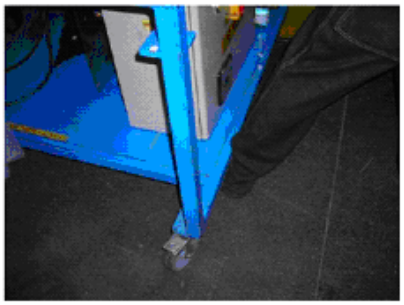
Mrs R was pushing the peripheral equipment while Mr F. was pulling it.
The peripheral equipment came on the foot of Mrs R. She had the feet blocked (second picture) and fell on the floor.

Injuries:
Sprain at the left ankle

Estimate date of return:
23rd July 2007 = 2day's loss

Photo:

Mrs R. was pushing the peripheral equipment while Mr F. was pulling it.



The peripheral equipment came on the foot of Mrs. R. She had the feet blocked below and fell on the floor.

Key Point Summary

- Keep attention while carrying out the job.

Key Learning Points

-

Date: Wednesday, November 14, 2007, 8:50 AM

Description of Work Performed:
Changeover of CD 345 rear lamp welder.

Description of Incident:

Employee who works in ASY II accidentally bruised his left during changeover CD 345 rear lamp welder. The employee went to hold up the welder with his left hand while it began to slide off during transportation because the welder was put on the trailer without fastening the location pin. The operator asked leave from November 14th to November 21st

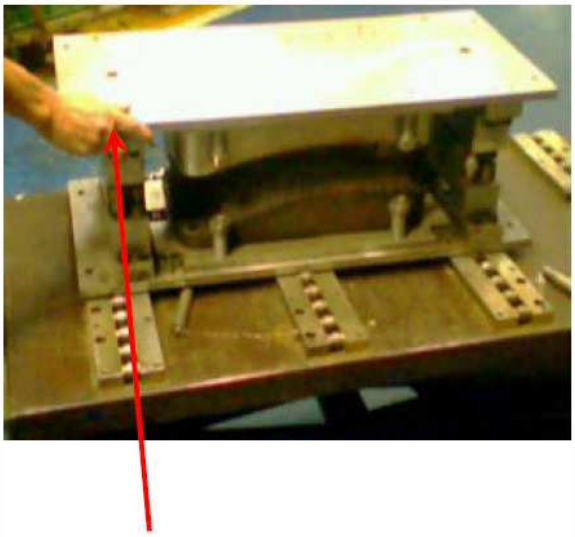
Injuries:

Bruise to the left hand.

Key Points Summary

- Carelessness used by the employee.
- The employee was anxious for the changeover in production.

Photos:



Welder strikes employees hand

Key Learning Point

- Discuss working safely with employee, at the same time arrange shift/team leader to audit production equipments periodically and eliminate & improve the potential safety issues.
- Require engineer to train all the hot plate operators and make changeover instruction.
- Improve the changeover trailer by coloring the pin with red alarm device while at the same time requiring engineering improvement of the pin to the fastening location.

Date & Time of Incident: Jul/30/2008; 08:30 am

DRS Incident number:

Incident Description:

The worker was handling a 10 Kg box with both hands in order to locate the box in lower rack section. The container slipped of her left hand, causing a hyperextension in her middle finger.

Additional information:

- *Witness (Y/N):* No
- *Contact:* By Medical Service 1 1/2 hour after the event.
- *Supervisor informed (Y/N), when?* Yes, 2 hour after the event.
- *Has this occurred before? (Y/N):* No

Safety Incident Information:

- *Injury Type*: Sprain
- *Affected Body Part*: Left hand (middle finger).
- *Estimated lost days*: 13 days
- *Repetitive disorder (Y/N)* - No

Immediate and Root Causes

- *Unsafe handling of materials*
- *Design of rack*

Flag (highlight one): Safety.

*Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

Interim Containment Action:

- Employee was sent to receive a medical treatment at plant medical services.
- A revision the physical conditions to 100% of the containers and boxes in this work area, Cell # 20, no container damage was found.

Permanent Corrective Action:

- Reinforce training to employees about suitable handling of materials.
- Reinforce training to employees about hand safety and risks.
- Safety Awareness Campaign (Include Videos, VTV, Posters, and Awareness).
- Reinforce safety revisions through inspection in areas.

Photo 1: accident / incident

Relevant EH&S Procedure/Standard

- **Standard:** N/A
- **Requires Change to Standard (Y/N):** N/A
- **EHS Violation or Non-Conformance (Y/N):** N/A

Key Learning Points

- The supervisor of Assembly must to follow up to improve the practices of handling material.

Date & Time of Injury: 06.02.2008 / *05.15 pm*

Incident Description:

- The employee was pulling a trolley when the area became narrow because of the layout on the left and one electric box on the right. The worker didn't see the electric box and caught his second finger between the trolley and the box. The result was a cut and his second finger broken.

Additional information:

- *witness (Y/N): Y*
- *supervisor informed, when: Immediately*
- ***Flag:** first time or **repetitive disorder**:*

- **Injury Type:** Cut and phalange bone fissure on finger
- **Affected Body Part:** 2nd finger of his right hand
- **Estimated lost days:** 2 weeks or more

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- *Unsafe manipulation from the external side.*
- *Limited area because of layout*
- *Narrow area for this kind of trolleys.*

Interim Corrective Action:

- *Single Point Lesson + Safety alerts about the right and wrong way for moving trolleys situated around the plant, for every worker in plant*
- *Meeting with Production & Eng. Dep. On 13-Feb to fix the actions.*
- *To install rubber protection on the electric box*

Permanent Corrective Action:

- *Visual Safety Alerts (80x30 mm) to display on each trolley with the right and wrong way for moving them and training about that.*
- *Change layout.*
- *Provide all the trolleys with a good central handling if it's possible (if not, at least, put a handle)*

Photo 1: accident / incident

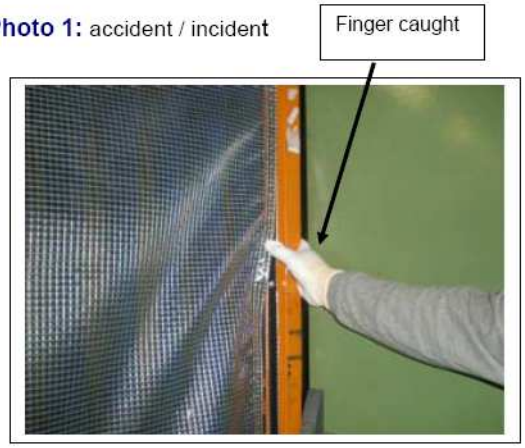


Photo 2: place of incident / work environment or corrective action

Relevant EH&S Standard

- **Standard:** Move the trolleys from the handle or from the internal part. Don't move them from the external part of the structure.
- **Gap to Standard (Y/N):** Y
- **Safety Violation (Y/N):** Y

Key Learning Points

- *General information about the correct way of moving the trolleys.*
- *Zero tolerance for unsafe conditions and unsafe acts.*
- *Respect the layout.*

Date: Friday, November 23, 2007. 18:00.

Description of Work Performed:
Manual handling of B58 porteur containers

Description of Incident:
Over effort caused by handling damaged containers in the injection and painting area.
When he was moving intermediate containers (porteurs B58) in the painting area he suddenly noticed a pain in his left wrist. The pain was slight and he felt that this was unimportant so he didn't tell it to anybody.
This pain became more acute when he worked in the injection machine S-2000 1ª because he had to stop one of these containers and then his left wrist twisted and extended.
On November 6th he worked for 4 hours again at S-2000 1ª and he felt again a strong pain in his left wrist so he asked his supervisor if he could go to the medical service.
Due to bank holidays he could rest for 5 days.
He started working again on Monday 12th Nov. He still felt pain so he was working in low effort work posts.
Friday 23th: he worked again on S-2000 1ª and the pain was so acute that he went to the mutual. He's off since this date.

Injuries:
Left arm overstrain.
Rehabilitation and medical treatment.

Key Point summary

- The incident was treated without a proper communication.
- Containers are in process to be repaired and additional aids to improve their handling were implemented before the incident.

Photos:

These intermediate containers have a little arm that is made for guidance. If this arm is bent because of a hit, it acts as a brake so it's more difficult to move the container when it's damaged.

Workers have to move the containers in S- 2000 1ª in this way forward up to the table where they work. In this area of injection the floor is inclined to the right in the photography so they have to control them with the left hand. If they start to move the container by force because the container is damaged it's possible that the left wrist have a bend in extension and this is a very forced movement that may cause the injury.

Key Learning Points

- Proper communication of incidents must be implemented between Supervisors and Safety in order to detect and avoid this kind of injuries that cause long term lost time cases.
- Containers must be immediately repaired to prevent new cases.

Date & Time of Injury: ***05/29/08 at 4 pm***

Incident Description:

A forklift driver was loading a truck with pallets of empty cardboards (used for the safety storage of IP plastic . She went down her forklift to move manually a cardboard that was not well placed on a pallet. When she put the left foot on the floor, she felt a strong pain on the ankle.

The cardboard are used for the safety stocks and were used during the day because of a mould failure.

She was wearing high shoes (especially for forklift drivers) and the floor was not wet, not slippery, not anhy granulates…

Additional information:

- *witness (Y/N):* - *NO*
- *supervisor informed, when:* - ***Immediatly***
- ***Flag:*** ***first time*** *or repetitive disorder:*

- **Injury Type:** - ***sprain***
- **Affected Body Part:** - **left ankle**
- **Estimated lost days:** - ***6 days***

Root Cause

Flag: *Environmental* / **Safety** / *Ergonomic / Fire / Occup. diseases*

Interim Corrective Action:

- *Communication on the accident*
- *Checking that all forklift drivers wear high safety shoes*

Permanent Corrective Action:

- Checking the good stability of the pallet before transport with forklift

Photo 1: Accident situation

Relevant EH&S Standard

- **Standard:** - Packaging
- **Gap to Standard (Y/N):** - ***No***
- **Safety Violation (Y/N):** - ***No***

Key Learning Points

- *Stability of our process to use less cardboards*

Date & Time of Incident: March 10th 2009 23:35

Incident Description:

At about 23:35 on March 10, when the forklift driver of logistic section backed his forklift to deliver the pallets, he struck a stock controller who was counting the stock approximately 1.5m behind the forklift. He applied his brake quickly, but could not stop the forklift. The employee's left big toe was pressed by the forklift and injured.

Additional information:

- **Witness (Y/N): N**
- **Supervisor informed (Y/N), when? Y, 8:00 a.m. 12/3/2009**
- **First time occurrence (Y/N) Y**

Safety Incident Information:

- **Injury Type: Crushing Injury with sutchers**
- **Affected Body Part: front of the left big toe**
- **Lost days: 10 days (recommended by the doctor)**
- **Repetitive disorder (Y/N) N**

Immediate and Root Cause

1. The forklift driver was used to drive diesel forklift. It was his first time to driver a battery forklift that the brand name is Linde. He was not familiar with the performance of the battery forklift, especially the braking distance;
2. Injured employee wasn't wearing the safety shoes.

Flag (highlight one) :
*Environmental / **Safety** / Fire / Occup. diseases*

Interim Containment Action:

1. Send the injured to the hospital immediately;
2. Perform the inspection of all the forklifts and stop using the forklifts that have brake fault.

Permanent Corrective Action:

1. Provide the safety training for all forklifts used by the forklift drivers;
2. Workers must wear their safety shoes during the work time as required;
3. The forklift drivers must be trained before change to use other kinds of forklifts.

Photo 1:

The stock controller was counting the stock when the driver backed his forklift to deliver the pallets.

Photo 2:

The driver applied his brake quickly, but could not stop the forklift. The empoyees left big toe was pressed by the forklift and injured.

Relevant EH&S Procedure/Standard

- **Standard:** Y
- **Requires Change to Standard (Y/N):** N
- **EHS Violation or Non-Conformance (Y/N):** Violation of 2 foot rule

Key Learning Points

- Training for the forklift drivers is especially important when new vehicles are added to the fleet.
- Where PPE (safety shoes, gloves, glasses, etc.) are required, they should be managed and inspected daily.

Date & Time of Injury: ***08/29/2008 7:15***

Incident Description:

- LOG operator was counting empty pallets , taking notes and walking backwards as he did so.The HiLo was picking up empty pallet collapsed Chep pallets . As the driver reversed away from the row of empty pallets, steering to his left he collided with LOG operator. The truck hit into to operator and ran over his left leg.

Additional information:

- *witness (Y/N):* ***- empty pallet compound***
- *supervisor informed, when:* ***- immediately***
- ***Flag:*** ***first time*** *or repetitive disorder:*

- **Injury Type:** - ***contusion***
- **Affected Body Part:** - ***both legs***
- **Estimated lost days:** - ***2-5 days ??***

Root Cause

Flag: Environmental / ***Safety*** */ Ergonomic / Fire / Occup. diseases*

- Improper communication between operator and driver, the operator accepted his inattention .

Interim Corrective Action:

- *An ambulance was called and he was taken to hospital.*
- *investigation of accident including risk analyse.*

Permanent Corrective Action:

- *Revision of pedestrians ways, safety instruction for manual handling /operating / with storage goods.*

Photo 1: place of accident

Photo 2: illustration photo

Relevant EH&S Standard

- **Standard:** -
- **Gap to Standard (Y/N):** - ***N***
- **Safety Violation (Y/N):** - **Y**
  / 2 foot principle /

Key Learning Points

- *- Safety stand down / all working sifts /*
- *- Daily safety walk or unscheduled inspection are needed (speed limit, safety vest using, proper walking on pedestrian way, etc.)*
- *- Permanent observance of all safety rules, incl. traffic rules*

Date and Time of Injury:April 25, 2007
Problem Description
Shipping Fork Truck Driver continued to work in a dangerous way knowing that it created an unsafe environment and could damage materials. He recognized that the fork truck's forks extended 14" beyond the rack he was moving. He also acknowledged that he witnessed the racks stacked behind the loads he was moving being lifted and rocking from the forks sticking out of the rear of the racks he was moving. He did not notify the team leader but instead continued to work while being very careful. One time, after he lifted his loaded the stack of racks behind it started to rock from being lifted as well from the forks extending out of the back of his load. The stack of racks continued to rock after he had pulled away from them until they finally fell over backwards knocking over a third stack sitting behind them. A total of five racks were knocked down.

The fork lift that he was using was not his standard lift. The lift he had been using was picked up by mistake for repair earlier that day. He had tried using a standup lift but had difficulty stacking his loads with it.

Interim Corrective Action
Driver was removed from lift truck duties until an investigation could be completed. Racks were cleaned up and parts were sent to non conforming to be checked.

Root Cause
Unsafe Action by driver
Deficient assessment by driver
Fork Lift Driver should have stopped immediately after noticing the difficulty in lifting his loads without the 14" extension lifting the loads stacked behind his attended load. He tried to be extremely careful but should have stopped and not taken the risk.

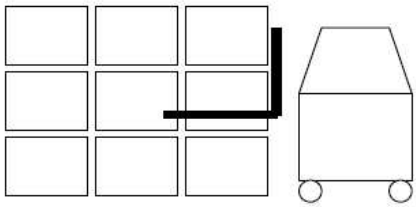
Fork Lift Driver failed to notify anyone of the unsafe process and continued to work.

Permanent Corrective Action
Bring in an outside auditor from a local company (ATN) to review our fork truck drivers in operation to get an independent evaluation of our driver's abilities and driving behavior.

Install a safety barrier using netting and cables that will be anchored to the flooring and ceiling to protect items from being pushed or knocked into working aisle ways and working areas.

Modify the current Team Member manage system used to track such occurrences and repeat occurrences by operators and drivers of dangerous equipment.

Photo:



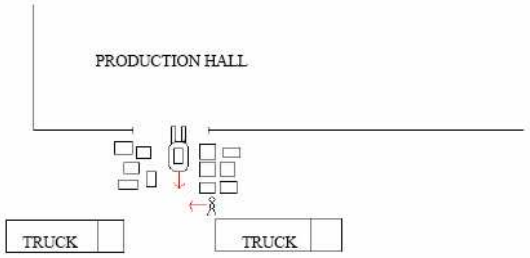
Date: January 8, 2008
Time: 14:40

Description of Work Performed:
Management Assistant wanted to give truck driver letters

Description of Incident:
In unloading area the assistant was walking along the trucks that were being unloaded by forklift. The forklift was approaching backwards from the production hall and at the same time the assistant was crossing the way (see the drawing). The assistant was struck by the forklift and the forklift went over her right foot. She was not wearing safety shoes and her toes were injured (not broken).

Injuries:
Laceration of right foot toes

Photo:



Key Point Summary

- **No safety shoes**
- **Temporary intersection made from cardboard boxes**
- **Icy surface in the unloading area**
- **Wrong organization of work**
- **Inadvertency**

Key Learning Points

- *Wearing safety shoes also in non-production areas is obligatory*
- *No unauthorized personnel in loading and unloading areas (authorized personnel only with reflex west)*
- *Cleaning of ice from outside surfaces*

Date & Time of Injury: 15/01/2008, 13:50

Incident Description:

After closing the Kit boxes on the pallet, the employee and another employee, pulled the pallet with an electrical cart (pantographic), to the storage area. During this process the employee's right foot was hit by the cart, causing a contusion.

Additional information:

- *Witness (Y/N):* **Y**
- Supervisor informed, when: **immediate**

- **Injury Type:** *contusion*
- **Affected Body Part:** *Heel*
- **Estimated lost days:** 14

Root Cause

Flag: *Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

Substandard Condition: *Inadequate* Standards

Interim Corrective Action:

The employees received training about the safe behaviors and risk in this process.

Permanent Corrective Action

- *Single Point Lesson (SPL) to all employees about the right mode to pull the cart.*
- *Installation of protection below the battery area of the cart*

Photo:

Photo 1: Electrical cart (pantographic)

Photo 2: Point of the Injury

Relevant EH&S Standard

- **Standard:** *Safety protection*
- **Gap to Standard (Y/N):** *Y*
- **Safety Violation (Y/N):** *N*

Key Learning Points

- *The employees need to receive training about the process before starting the new job.*
- *Updating the operation mode to pull the cart is necessary.*
- *All carts need protection below the battery area checked before starting work.*

Date and Time of Injury: **4/3/07 @ 1:50pm**

Problem Description

Employee was removing a double stacked pallet of compressors from the top rack. He backed up as he was turning due to limited aisle space. He felt the lift rocking, stopped and tried to lower the lift, but the weight of the load took the lift over front ways.

Interim Corrective Action

1 Area secured and outside company removed lift truck.
2 Retraining done immediately for driver whose license is valid.
3 Re-evaluate warehouse storage for pallets with heavier loads
4 Accident reviewed with all lift truck operators

Root Cause

1 Parts were double stacked on top shelf.
2 Obstruction of warehouse overflow area where pallet was stored which caused insufficient space for lift
3 Forklift load capacity & deviation from lift truck travel procedures

Permanent Corrective Action

1 Stacking of compressors on top rack to be single pallet only.
2 Carriers (part causing obstruction) to be moved
3 Restricted area and authorized employees only posted at all storage areas
4 Quarterly review of lift truck use
5 Daily audit for pallet hazards
6 Encourage hazard or potential hazard reporting.

Photo:

Key Point Summary

- Obstructions of safe & effective lift truck operation
- No work instruction for heavier warehousing storage

Key Learning Points

- *Ensure material is properly stored and material specific handling requirements are understood by relevant EE*
- *Areas must be kept clear of obstructions*
- *Design of layout and logistics of material placement*

Date and Time of Injury: 5-22-07, 11am, no injury

Problem Description

An Associate was removing an empty rack from a stack of 3 high. As he was swinging his forklift out to lower the rack, an inside stack of empty racks (4 high) was leaning over against the empty rack that he was removing. As he lowered his forks the leaning stack and fell to the ground striking a pallet of parts. No injuries occurred.

Interim Corrective Action

Immediate corrective action was to remove the operator from the equipment. The team member was drug tested and went through forklift re-training.

The product was sent to Quality for evaluation and the racks that fell were taken out of the fleet.

Root Cause

Stacking racks too closely to each other could cause racks to lean, hang-up or stick together.

Permanent Corrective Action

1. All racks are to be placed at a minimum of 2"s apart going forward. This will prevent racks from touching and potentially sticking together.

2. Excess racks are being removed and we will store racks in 3 high.

3. Dunnage audits will be performed and documented daily to confirm dunnage is nested correctly and dunnage separated by 2" or more.

4. New warehouse layout to address this issue.

Photo:

Key Point Summary

- Be aware of your surroundings
- Keep dunnage storage away from work areas (if this near miss had occurred adjacent to a work area there could have been serious injuries)

Key Learning Points

- *Excess racks should be kept at a minimum*
- *Safety Audits should be conducted daily and review rack storage locations.*
- *Racks should not be stacked closely to avoid hang up*
- *Review stacked dunnage to be sure no dunnage is stacked where it could fall into the workspace of an operator.*

Date: 14/08/2007
Time: 09:00hrs

Estimated lost time: 5 days
Expected return date: 21/08/2007

Description of incident:

Injured employee is a Supervisor and had just instructed a fork lift truck driver to perform some work in a different area of the building. The fork lift was parked on the main aisle close to pedestrian walkway. Supervisor was standing on pedestrian walkway as he gave FLT driver instructions. FLT driver acknowledged instruction and started to move off, effecting a u-turn manoeuvre. As he did so, the rear nearside wheel of the fork lift ran over the Supervisors right foot.

Injury Type:

Severe bruising to right foot.

Actions Taken:

- FLT driver removed from driving duties until outcome of investigation finalized.
- FLT removed from service for inspection – All OK (15/08/07).
- Both individuals reminded of need to ensure adequate separation of vehicles and pedestrians.

Photos:

Injured employee stood here

Key Point Summary

- FLT driver failed to consider extended swinging arc of truck, as he performed the u-turn.
- Failure by both individuals to effectively implement
  2 foot rule.

Key Learning Points

- Re-communicate safety alert regarding 2 foot rule, to all employees.
- Conduct refresher training for fork lift operator.

Date: Thursday, September 20, 2007
Time: 02:03 A.M.

Description of Work Performed:
Forklift operating in substrate area moving Nissan dollys

Description of Incident:

On September 20, 2007 the MP&L operator drove forklift to serve 3 stack Nissan dolly from substrate area to Nissan assembly line. When backing up to be able to set down the dolly, his forks did not clear the bottom dolly and he lifted his forks up. This caused the racks to fall forward and the top rack fell and landed on another single dolly before striking the operator.

Injuries:

Employee sustained contusion to shoulder, back and lower leg.

Key Points Summary

- The operator attempted to unstuck dollies inside the assembly area.
- The operator did not back out far enough before raising forks.
- Changed all racks to be stacked only 2 high.
- All racks are served to the assembly lines by the operator pushing the dolly into the assembly area.

Photos:

Key Learning Points

- Operator to have awareness training on safety forklift operation.
- Review and provide forklift work instruction/stack movement for dolly or pallet.
- Add feel bar above 2 dolly height for additional visual aid.
- Paint forklift only areas for stacking and un-stacking.

Manutenção

Date and Time of Injury: June 19, 2008 at 9:00 am

DRS incident number: 6446

Incident Description
In the tool shop area, the employee placed the manifold spacer plate on to milling machine table in order to perform adjustments. When he pushed the plate, the chock slipped and fell down, causing a laceration contusion by pressing the 5th finger of the left hand.

Additional information:
witness (Y/N): No
Supervisor informed(Y/N): Y , ***When:*** Immediately
Injury Type: laceration contusion
Affected Body Part: 5th finger of the left hand
Estimated lost days: 7days

Root Cause
Flag: Safety

Inattention - During the adjustment process, the employee misplaced the chock under the spacer plate incorrectly.

Interim Corrective Action:
Single Point Lesson (SPL) has been issued to warn the mold maintenance area about the risks and displaying the correct positioning/ fixing of chocks during the milling process.

Permanent Corrective Action:
It was implemented the 05 Minutes Safety Meeting at the beginning of work shifts in order to reinforce the safety initiatives.

Photo 1: place of Accident

The chock has slipped and fallen down
(illustration photo)

Relevant EH&S Standard

Standard: - N

Gap to Standard (Y/N): - N

Safety Violation (Y/N): - Y Inattention

Key Learning Points

- To improve the 05 Minutes Safety Meeting at the beginning of work shifts in order to reinforce the safety initiatives.
- Reinforce training about the risks and displaying the correct positioning/ fixing of chucks during the milling process.

Date & Time of Incident: 19/05/2008 21:05 *pm*
DRS Incident number: 6165

Incident Description:

On May19th the employee reported that on May 15th, he injured his wrist. The strain occurred when he was working in the Plates (Compressors) lift table moving baskets from the conveyor to the lift table. The lift table didn't work properly and he tried to put the baskets in a lower position than usual.

Additional information:

- **Witness (Y/N):** No
- **Supervisor informed (Y/N), when? – Yes, on 19th May 2008**
- **First time occurrence (Y/N) – yes**

Safety Incident Information:

- **Injury Type:** -Overstrain
- **Affected Body Part:** - Right wrist
- **Estimated lost days:** - 7
- **Repetitive disorder (Y/N) –** *No (acute)*

Immediate and Root Cause

Flag (highlight one) : Safety
Poor maintenance.

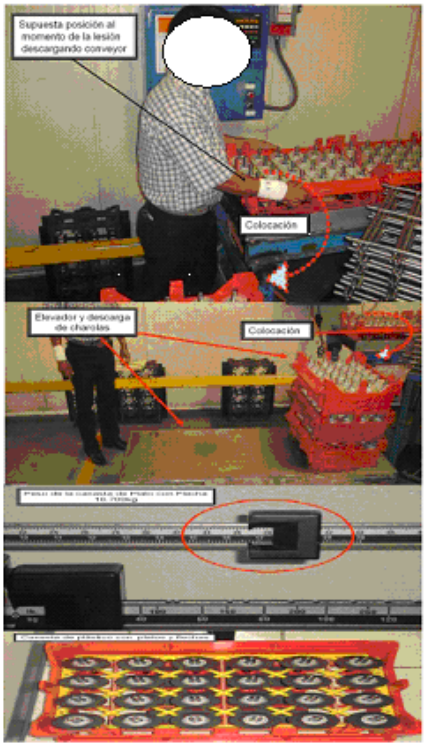
Interim Containment Action:

Medical Department attended employee
Maintenance reviewed the lift table involved

Permanent Corrective Action:

General review to all lift tables
Review PM list to assure that all functions of lift tables are checked regularly

Photo 1: accident / incident



Relevant EH&S Procedure/Standard

- **Standard:** - Preventive Maintenance
- **Requires Change to Standard (Y/N):** no
- **EHS Violation or Non-Conformance (Y/N):** *- No*

Key Learning Points

- *Review proactive preventive maintenance for safety devices to assure correct operation is checked.*
- *Remind employees that they should report all equipment failures immediately to their supervisor.*

Date & time of incident : 06.11.2009 11:00 a.m.

Incident description :

The operator of Tool Room, BT 9510, was working on newly developed assembly line including their testing, setting in order to verify all functions of this machinery. The operator paused for a moment at the pressing station (photo 1) with two pressing pistons. He put his right hand on the frame in a moment, when both pistons were in top dead centre. All fingers were put inside the space of pressing tool. The assy line was runing in self-acting cycle, when both pistons were activated to make movement to bottom dead centre.This movement caused total amputation of right little finger.

Additional information :

- **Witness** (A/N) **Y**
- **Supervisior informed (Y/N),when** : **Y, 11:03**
- **Firts time occurrence (Y/N):** : **Y**
- **Injury type :** amputation
- **Affected body part :** little finger (right hand)
- **Lost days :** - 60 days

Root cause :

Flag : *Environmental / **Safety** / Ergonomics / Fire / Occup.diseases*

- improper working position
- inadequate communication with all other operators

Interim Corrective Action :

- immediate interruption of all operating procesess
- Safety Stand Down in whole Autopal plants - all shifts
- transport of injured worker to hospital

Permanent Corrective Action :

- verification of all working instructions, especially for development, production and testing of new machinery
- verification of ECPL principle
- prepare proper layout including safety guarding of the working space to protect all other employees
- clearly nominate responsible team leader for all production, testing and setting procesess, ECPL , cleanliness

Photo 1 :

station with pressing tools operated by 2 pneumatic pistons

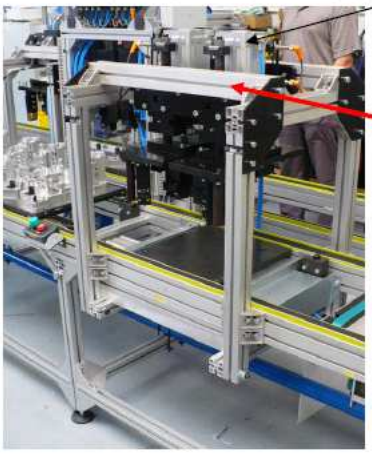
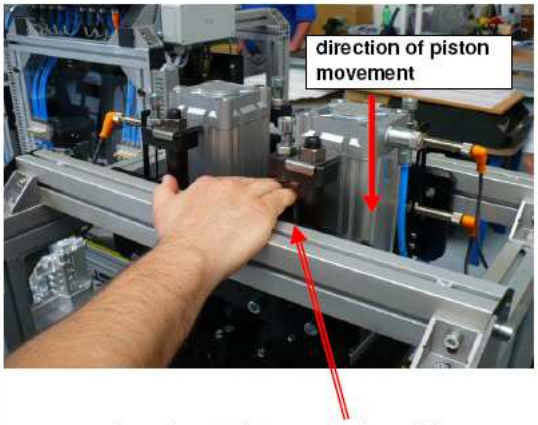


Photo 2 :



Relevant EH&S Standard

- **Standard :** -
- **Gap to Standard (Y/N) :** - **A**
- **Safety Violation (Y/N)** - **A**

Key Learning Points

- **- prevent the hand contact against moving elements on the machine by proper safety guards**
- **- ensure all procesess of production, assembling and testing by adequate working instruction**
- **- verify any intended action on the machine, which would be different to standard procedure**

Date & Time of Incident: 2009-06-07 23:00
DRS Incident number: 0903

Incident Description:

The tool change-over operator of Molding section, injured his head in mid-night shift at 11p.m. on 6/7. He was working with Model-F head lamp lens tool in 1400T IMM, he tried to tighten the mold clamp, however, the bolt cracked suddenly, and because of inertia, his wrench hit his head. He was sent to the hospital by the shift leader and received 3 stitches.

Additional information:

- Witness (Y/N): - Y
- Supervisor informed (Y/N), when? - Immediately
- First time occurrence (Y/N) - N

Safety Incident Information:

- Injury Type: Laceration injury
- Affected Body Part: Head
- Estimated lost days: 2 Days
- Repetitive disorder (Y/N) N

Environmental, Incident Information:

- Incident Type: - N/A
- Media: - N/A
- Agency Notification Required (y/n) : - N/A
- Impact: - N/A

Immediate and Root Cause:

Flag (highlight one) : Safety

- The original bolt from the IMM OEM was deformed after years of use. This bolt was not identified as defective prior to accident.

Interim Containment Action:

1. VTYC inspected all similar components on plant floor, including lift rings, all bent or defective bolts and lifting rings removed from production use.
2. Failed component returned to supplier for analysis, report pending.

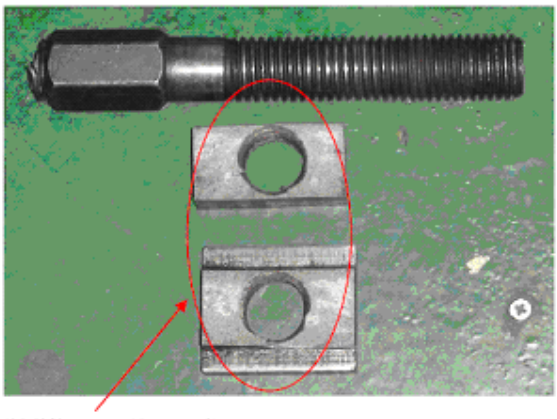
Permanent Corrective Action:

1. Modify change over procedure to include inspection of lifting and clamping devices at each changeover.
2. Implement annual inspection of all lifting and clamping devices.

Photo 1: Accident / Incident

The injured person

Photo 2



Relevant EH&S Procedure/Standard

- Standard: Y
- Requires Change to Standard (Y/N): Y
- EHS Violation or Non-Conformance (Y/N): N

Key Learning Points

- Continuous training of changeover operators to identify defective lifting and clamping devices.
- Implementation of formal inspection at each changeover.
- Implementation of annual inspections.

Date & Time of Injury: ***18/ 02/2008 7:30***

Incident Description:

A mould had a technical problem (unable to close) which could not be solved in-situ because of its design.

A mould operator was taking off one half mould from the machine with a crane to transport it to maintenance area for repair.

The foreman placed his left hand between the mould and the fixed section of the mould while introducing a wood piece to protect the mould. The supervisor's finger was caught between the wood piece and the suspended half of the mould when it shifted.
Injury: Multiple-fracture of bones of thumb.

Additional information:

- *witness (Y/N):* - *Y*
- *supervisor informed, when:* - ***Immediately***
- **Flag:** first time or repetitive disorder: **first time**
- **Injury Type:** - ***crushing injury***
- **Affected Body Part:** - **Thumb**
- **Estimated lost days:** ***-30 days***

Root Cause

Flag: ***Safety***

- *Unsafe act.- Placing hand between a moving suspended load and fixed point.*

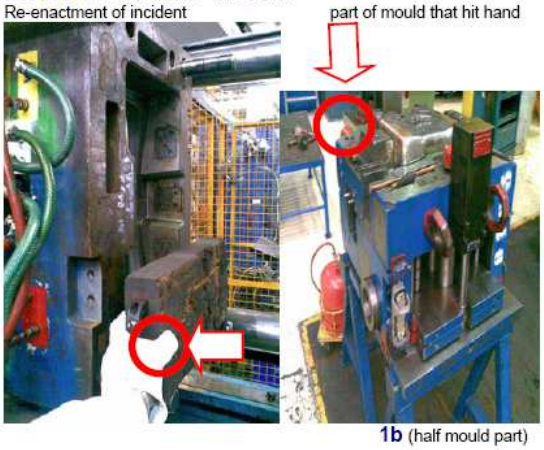
Interim Corrective Action:

- *Disciplinary action.*
-

Permanent Corrective Action:

- *review working standards for mould operations*
- *safety talk with mould and maintenance workers*

Photo 1: accident / incident



1b (half mould part)

Photo 2: View of mould from other side

Relevant EH&S Standard

- **Standard:** - VCEHS-4.3.1.1, H&S Risk Assessment
- **Gap to Standard (Y/N):** - *Y*
- **Safety Violation (Y/N):** - *Y*

Key Learning Points

- *Everybody must respect safety rules, always. Do not let years of experience create over confidence* ***Zero tolerance.***
- *Mould design including housing for extractors is safer (this design allows solving this kind of technical issues in-situ, without removing half-mould from Machine).*
- *When possible suspension points should be provided in designs for balanced lifting of whole and half moulds*
- *Standardized procedures should be developed for lifting unbalanced loads or when side loading is required (Removing half-mould from machine is a delicate operation needing more attention, specially if there are not specific connection points for a balanced lifting)*

Date and Time of Injury: Sep 10,2007 at 11:30 AM

Problem Description: Employee was working in the sander machine with an aluminium piece, (1/4" x 2" x4"). The aluminium piece was jammed between the band sander and the support table and at this moment the aluminium piece caught and hit the right index finger.

The investigation identified that the support table has erosion points and it causes the jammed problem.

The employee suffered a cut and contusion.

Interim Corrective Action:

- The employee was moved to plant medical services and the employee received medical treatment.
- The employee was moved to external medical services
- The plant limited the access to the incident area and started the incident investigation
- The plant stopped the activities in machine

Root Cause:

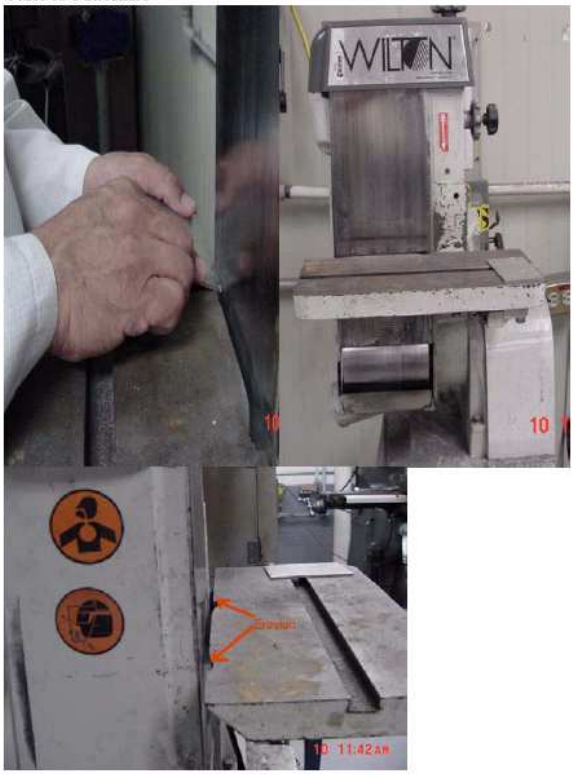
- Erosion in the support table

Permanent Corrective Action:

- Change the support table
- The employees will receive a refresh safety inspections training

Photo:

Sander Machine



Key Point Summary

Erosion in support table
Similar risks exist with grinding wheels

Key Learning Points

- Reinforce the safety inspections all employees
- To be proactive starting an exhausting JSA review in the maintenance area and trying to eliminate or control the safety risk

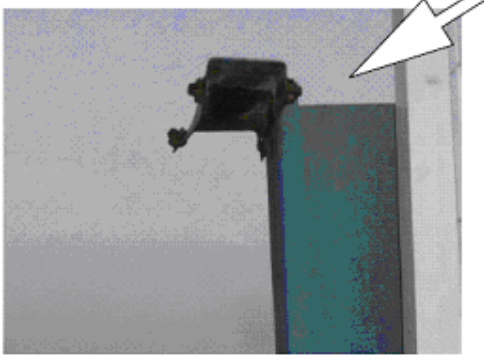
Date: 12 May.2007 6:30 AM

Event: LTC product by a big door when fall dawn in the leg of the operator. The impact caused multiple facture in the right leg.

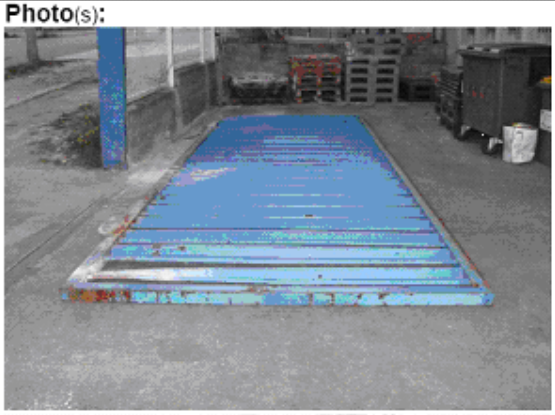
Cause: The situation (rental warehouse) have a inadequate maintenance of periferical wall and door. Inadequate design of the door (no robust).

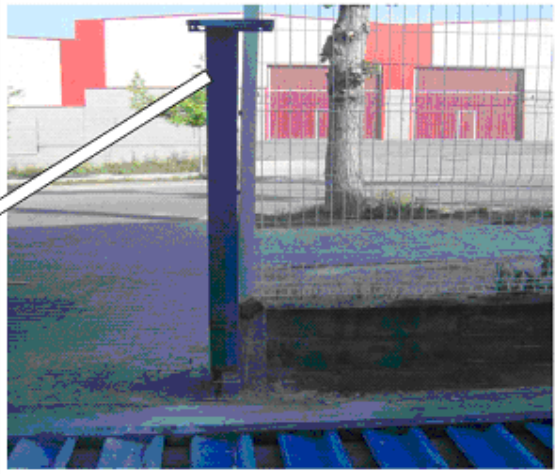
Description of Work Performed: Review all the wall and doors around the plant and fix all damage installation. Re-design of the system to guided the doors with more robust design.

Description of Incident: During the action to close the door (external), when finish the work labors, the door us fall down because the upper support was degradated by inadequate maintenance.



Photo(s):





Key Point Summary

- **Inadecuate maintenance of doors and wall installation.**
- **Inadequate design of the external door.**
- **Standardize and control (contract) all EH&S requirements in the rental warehouse or building.**

Key Learning Points

- **Review all the wall and doors around the plant and fix all damage installation.**
- **Re-design of the system to guided the doors with more robust design.**
- **Review and update the maintenance controls of installation.**

Date and Time of Injury: **JULY 26, 2007**

Problem Description

WHILE ADJUSTING SCREWS IN A MOLD, THE EMPLOYEE APPLIED PRESSURE TO THE TOOL, HE STRUCK HIS HAND CAUSING A CONTUSION IN HIS RIGHT FINGER ((BETWEEN THE BASE OF THE DOOR AND THE TOOL EXTENSION).

Interim Corrective Action

- THE ACTIVITIES IN THE AREA STOPPED
- MEDICAL ATTENTION OFFERS HIM (FIRST AID)
- INVESTIGATION OF THE EVENT IS MADE
- FEEDBACK TO THE TECHNICAL PERSONNEL OF SIMILAR OPERATION OF MOLD AREA (PLANT 1)

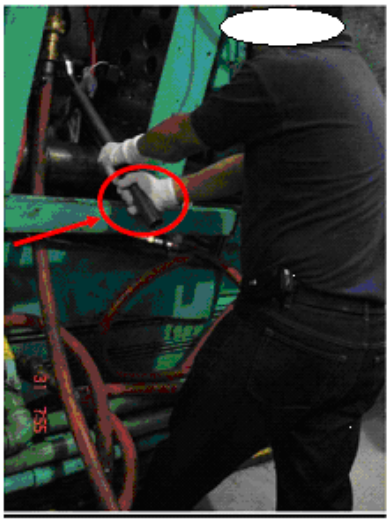
Root Cause

- A WORK PROCEDURE DOES NOT EXIST
- INADEQUATE POSITION OF WORK

Permanent Corrective Action

- TO ELABORATE JOB SAFETY ANALYSIS
- TO MAKE AN INVENTORY OF THE AMOUNT OF SCREWS AND TOOLS THAT ARE REQUIRED FOR THE OPERATIONS OF CHANGE OF MOLDS
- FEEDBACK TO THE TECHNICAL PERSONNEL OF SIMILAR OPERATION OF MOLD AREA IN ALL AREAS WHERE EXIST THIS ACTIVITY (PLANT 1&2)

Photo (s):



Key Point Summary

➲ **TO CHANGE SCREWS HEAD SOCKET**

Key Learning Points

➲ **REINFORCE THE BEST PRACTICES FOR CONDUCTING THESE ACTIVITIES**

Date: September, 25th, 2007

Time: 01:50 pm

Description of Work Performed:
Door production area!

Description of Incident:
During the tool change at a covering machine (Photo 1 und 2) Mr. [redacted]k wanted to rise over the tool roller conveyer (Photo 3), in order to push the tool with the change car from the machine, he remained hanging with his foot and fell on his right elbow.

Injuries:
Frakture of the right elbow!

Photo 1

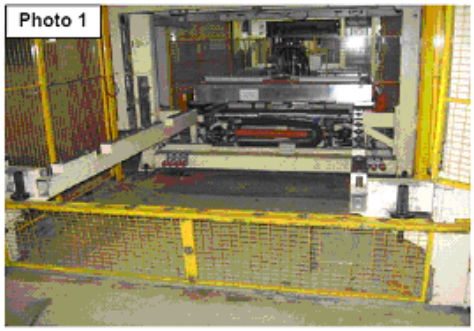


Photo 2

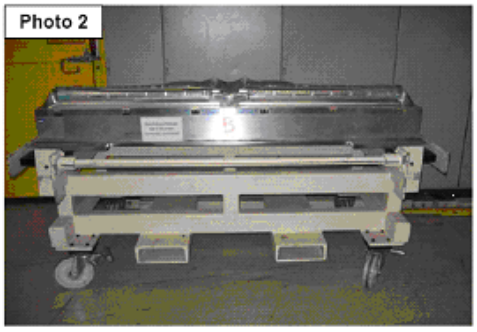


Photo 3

Key Point Summary

- The reason for this accident is the inattention of the worker
-

Key Learning Points

- Instruction by supervisor again!
-

Date & Time of Injury: 27 feb 2008 *11:30 am*

Incident Description:

- A maintenance worker rested his right foot on the upper platform in order to go out of the machine. When he propelled himself, his right foot slipped and he twisted his right ankle.

Additional information:

- *witness (Y/N):* ***- y***
- *supervisor informed, when:* ***-at the moment***
- ***Flag: first time***

- **Injury Type:** **sprain in right ankle**
- **Affected Body Part:** **- right ankle**
- **Estimated lost days:** ***- 10 days***

Root Cause

Flag: ***Safety and Ergonomic***

The platform is under an important height and worker need an effort to go out of it.

Interim Corrective Action:

-

Permanent Corrective Action:

- *Place a portable stair in order to come in and out of the platform.*
- *Place an interior handle to reduce the needed strength to push up.*

Photo 1: accident / incident

Photo 2: place of incident / work environment or corrective action

Relevant EH&S Standard

- **Standard:** -
- **Gap to Standard (Y/N):** -
- **Safety Violation (Y/N):** -

Key Learning Points

- *- A training to every worker related to maintenance explaining what happened.*
- *- Revision of the risk assessment.*

Date & Time of Incident: Sep. 05 2008

DRS Incident number: 7029

Incident Description:

Luis tried to unclog the two cylinders because the machine stopped the cycle and suddenly the machine restarted because an incorrect valve was installed and a caught between these two cylinders occurred in the right thumb. A hairline fracture (very little linear fracture) occurred in his distal phalanx. We recommend restricted work (7-10 days) but the operator decided to claim days away in the Social Security.

Additional information:

- Witness (Y/N): Yes
- Supervisor informed (Y/N), when? – Same day
- First time occurrence (Y/N) – Second time

Safety Incident Information:

- Injury Type: Contusion and hair-line fracture
- Affected Body Part: - right thumb
- Estimated lost days: - 15-30 days
- Repetitive disorder (Y/N) –*No*

Immediate and Root Cause

Flag (highlight one) :

Environmental/ ***Safety*** */ Ergonomics / Fire / Occup. Diseases*

ROOT CAUSE

The incorrect installation of a 2 way valve instead the 3 way valve that permits the discharge of the energy when the operator stops pushing the 2 hand control.

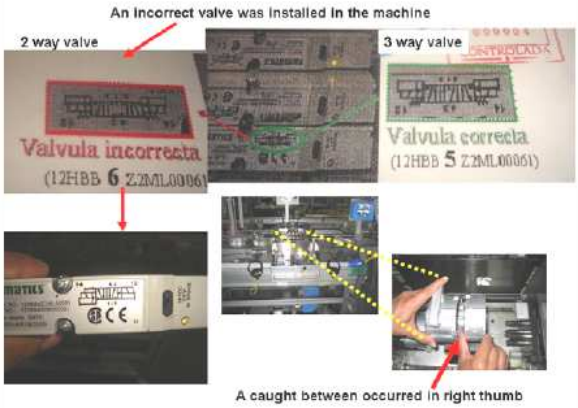
Interim Containment Action:

We reviewed all the machines with these valves. Only the involved machine had this incorrect valve.

Permanent Corrective Action:

Special guards will be installed to avoid the unauthorized exchange of these valves.

Photo 1: accident / incident



Relevant EH&S Procedure/Standard

- Standard: -
- Requires Change to Standard (Y/N): NO
- EHS Violation or Non - Conformance (Y/N):

Key Learning Points

- ***DEFECTIVE OR INADEQUATE TOOLS CAN PRODUCE INJURIES. THE SUPERVISORS CHECK-LIST AND THE CONSISTENT REVIEW OF OUR EQUIPMENT IS AN IMPORTANT KEY TO AVOID THESE RISKS.***

Date: 31/01/08
Time: 11.30 am - RSA X85IP Clio shoopfloor

Description of Work Performed:
Mold Change over on Welding Machine

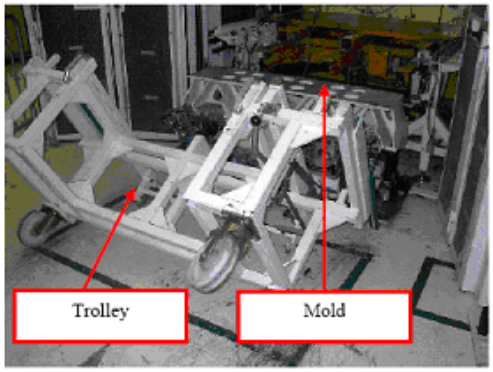
Description of Incident:

Two IMT are processing to a change over a [redacted] vibration welding machine.
The vibration mold (300kg) felt down during the change over
1 IMT lost the phalanx of the auricular - right hand - during the fall down. Graft was not possible.

The trolley should be clamped to the machine during the movement (loading-unloading) of the tool (from trolley to the machine or machine to the trolley). The trolley is a standard trolley from [redacted] constructor.
The trolley was not fixed properly.

Injuries:
Cut the first phalanx of the auricular – right hand

Photo:



Key Learning Points

- *- Review with method engineer the clamping system*
- *- Formalize procedure to change the mold*
- *- Develop a list of restricted people for change over*
- *- Inform all management of this accident*

Date & Time of Injury: *02/06 10am*

Incident Description:

A contractor tool maker was doing the reception of a X7 Door panel mould. To check the mould before to use it on production, he opened it and put one of the half part stand up using 2 hooks cranes for the manipulation. He removed the chain from the upper side (1 on the picture) using a stepladder for that. He went to the other half part few meters far from the first half part to have a look on the ejection system. 5 minutes later he decided to finish the operation on the first half part and returned to it. An injection expert was looking at the mould in an area to clean and showed this area to the tool maker who had the controller of the crane in the hand. At this moment they saw the mould beginning to fall on them (3 on the picture). The injection expert pushed the tool maker on the side to avoid him to be under the mould. The tool maker felt on the floor and the stepladder and the mould blocked his left leg.
It seems that the tool maker had pushed on the button up of the controller to remove the chains from the mould (2 on the picture).

Additional information:

- *witness (Y/N):* Y
- *supervisor informed, when:* ***The 02/06 at 10am***
- ***Flag: first time*** *or repetitive disorder:*

- **Injury Type:** ***fracture***
- **Affected Body Part:** ***2 vertebras***
- **Estimated lost days:** ***Waiting for this information***

Root Cause

*Flag: Environmental / **Safety** / Ergonomic / Fire / Occup. diseases*

- *Error in the chains removing : the upper one before the bottom one*
- *Manipulation of the mould in several times*
- *Disturbing during the manipulation of the mould*

Interim Corrective Action:

One Point Lesson to recall the Goods practices (Order to remove the chains from the mould ; Manipulation to be done in one time only ;Safe area around the mould).

Permanent Corrective Action:

- *Adding information on the controller system and on the crane to avoid potentials errors of manipulation*
- *Lighting system at the entrance of the tool area to inform and forbid people of to be on the tool area.*

Photo 1: Accident situation

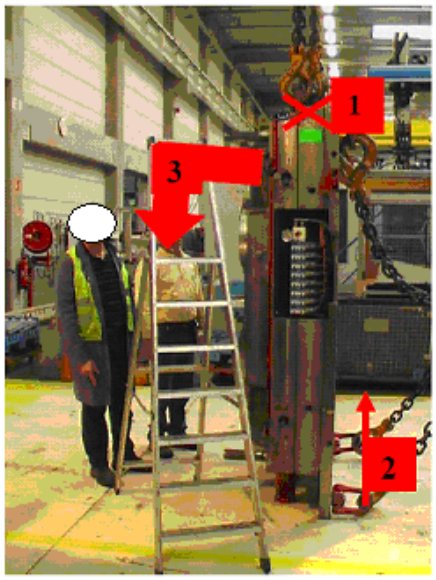
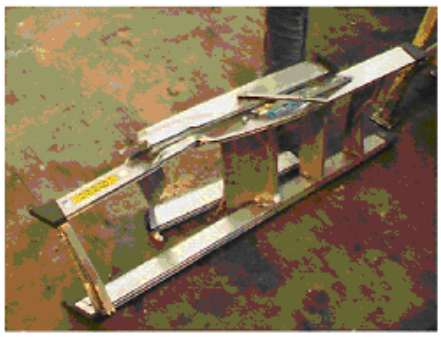


Photo 2: *Stepladder after the accident*



Relevant EH&S Standard

- **Standard:** Goods practices of manipulation
- **Gap to Standard (Y/N):** Y
- **Safety Violation (Y/N):** Y

Key Learning Points

- *General information for the plant on accidents – Supervisors - Immediate*
- *General tool risk analysis to be review completely – 02/28 –*

Date & Time of Incident: 2009-01-18 14:15 PM
DRS Incident number:

Incident Description:

In the preheat zone of wave solder machine in NO 5 Drop, a flash occurred and a fire ensued one minute later. The bottom of vent-pipe was burnt.
The machine operators cut the power and put out the fire immediately. No people were injured.

Immediate and Root Cause

•Concentration of flammable gas accorded with explosion limits
•The distance between preheat and Flux spread is too close

Interim Containment Action:

•Check the exhaust fans' operation before work. And check them once every two hours.
•Clean the filter in flux tank once every four hours. Clean the entire flux tank.
•Cancel the first preheat zone and keep enough hot insulation distance.

Permanent Corrective Action:

•Check the exhaust every month. The flux must be more than 10 M^3/min
•Add the linkage system of exhaust fans and machines
•Clean the wave solder machine enough and renew "5S" system
•Update the line which preheat zone is insulated from Flux spread zone

Photo 1:

Photo 2

Relevant EH&S Procedure/Standard

- **Standard:**
- **Requires Change to Standard (Y/N):**
- **EHS Violation or Non-Conformance (Y/N):**

Key Learning Points

Permanent Corrective Actions will be extended to other lines

Date & Time of Incident: September 26th 2008 22:40

Incident Description:

An accident occurred at about 22:40 on September 26. Mr. [redacted] (Male, 27 years old), the operator of No.4 slush machine group IP area of Cockpit Plant slipped to the pit from the rotary table when he was standing on the rotary table to clean up the plastic bag on the bucket. He knocked against the bracket and his 10th rib on the left side was broken.

Additional information:

- **Witness (Y/N):** Y
- **Supervisor informed (Y/N), when?** Y, 10:00 a.m. 27/9/2008
- **First time occurrence (Y/N)** Y

Safety Incident Information:

- **Injury Type:** Fracture
- **Affected Body Part:** Chest (the 10th rib on left side)
- **Estimated lost days:** 110 days
- **Repetitive disorder (Y/N)** N

Immediate and Root Cause

1. The risk identification is insufficient and the SOP does not cover this operation;
2. Do not find the bug of SOP in the daily inspection.

Flag (highlight one) :
Environmental / **Safety** / *Fire* / *Occup. diseases*

Interim Containment Action:

1. Forbid the employees to work in this slush line, rotary table and the pit until the updated SOP and the training of the employees are finished.
2. Identify the risks of the slush line including person, equipment, material, method, and environment.
3. Refer to the former risk identification sheets.

Permanent Corrective Action:

1. Improve the safety SOP based on the updated risk identification sheet and provide safety training to relevant employees (operator and maintenance);
2. Make the daily inspection plan to improve the safety SOP;
3. Measure safety steps and SOP of the similar equipments in the plant.
4. The other departments should read the 8D report and learn a lesson from this incident.

Photo 1:

Relevant EH&S Procedure/Standard

- Standard: N
- Requires Change to Standard (Y/N): N
- EHS Violation or Non-Conformance (Y/N): N

Key Learning Points

- Improve the risk identification for the maintenance operation of all the equipments.

Date & Time of Injury: *09 /08/2008/ 11 am*

Incident Description:

During preventive maintenance on Thermocompression machine the maintenance technician was performing screw threading. He was standing with his right foot on a maintenance platform (see no. 1) and with his left foot on a aluminium bar (see no. 2). As he pushed the screw his left foot slipped from the bar and he felt down on his back.

Additional information:

- *witness (Y/N):* - ***Y***
- *supervisor informed, when:* - ***immediately***
- ***Flag:*** *first time or repetitive disorder:* ***first time***

- **Injury Type:** - ***back injury***
- **Affected Body Part:** - **vertebra (backbone)**
- **Estimated lost days:** - ***10***

Root Cause

Flag: *Environmental /* ***Safety*** */ Ergonomic / Fire / Occup. diseases*

- *inattention*
- *improper position for the task*

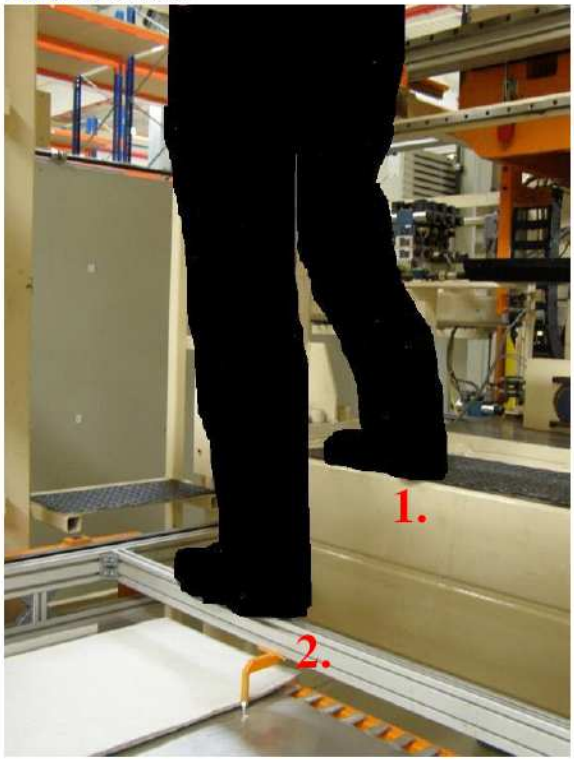
Interim Corrective Action:

- Safety awareness talk for all maintenance technicians
- Marking of the bar with NO ACCESS sign

Permanent Corrective Action:

- Providing additional platform underneath lifting table

Photo 1: accident



Relevant EH&S Standard

- **Standard:** - N/A
- **Gap to Standard (Y/N):** - ***N***
- **Safety Violation (Y/N):** - ***Y***

Key Learning Points

- *While working inside machines use only proper & solid existing maintenance platforms for standing on*
- *Pay more attention while performing maintenance activities inside the machine*

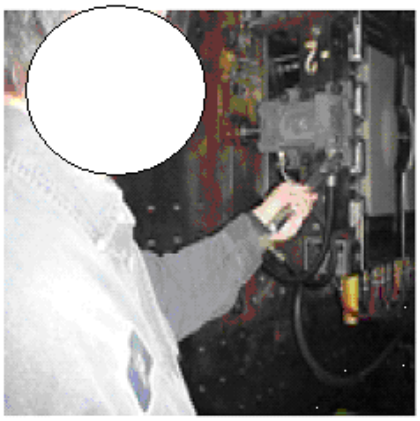
Date: 9/19/2007
Time: 11:30

Description of Work Performed:
Maintenance on press 1000-1

Description of Incident:
EE was using adjustable wrench to remove a hydraulic mold fitting, the filling loosened and the wrench slipped off the fitting. EE reached to brace himself to prevent a fall and twisted his body creating a tear in the left shoulder area.

Injuries:
Left shoulder – 3-4 centimeter tear to rotator cuff

Photo:



Key Point Summary

- **Using adjustable wrench**
- **Wrench slipped**
- **Caught off balance**
- **Unusual posture**

Key Learning Points

- *Position yourself that when force is released you have a stable balance*
- *Use proper tool*
- *When loosing a bolt consider the stability of wrench on bolt and position of your stance*

Date: 18-09-2007
Time: 08:20 PM
Estimated lost days: 5 days
Estimated Date of Return: Week 29.
Cause: Potential Serious Accident
[**Safety** / Ergonomic / Motivation / Occupational Disease]

Description of Work Performed:
Manual mould unload operation. The foreman was changing the mould from a welding machine. Operation: 1-approach the trolley to the machine, 2-block wheels, 3-charge the mould on the trolley (sliding on metallic cylinders), 4-lock the mould on the trolley, 5-unblock wheels, 6-move the block to the store area. There are two safety devices to block the mould on the trolley: An automatic system (that can fail, depending on the mould) and a manual system.
Note: This manual lock-out was implemented after a previous incident investigated in February.

Description of Incident:
The worker didn't lock the mould with the manual device (phase 4). When he performed phase 6, the mould slipped and fall down, hitting his face.

The trolley was in bad conditions (no manual safety device in place), it seems that was know by Production and Maintenance.

Injuries:
Contusion in different parts in the face and left shoulder. The face wound needed some stitches.

Photo1

Photo 2

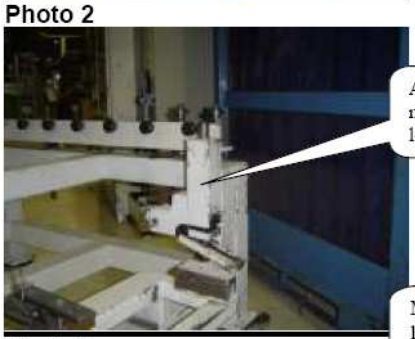


Photo 3

Key Point Summary

- **Lack of zero tolerance and proactivity: the unsafe condition didn't cause any reaction**
- **Defective-unsafe equipment**
- **Unsafe action, using defective equipment**
- **Inadequate-unsafe design (the automatic lock is not reliable)**

Key Learning Points

- **Unsafe equipments must be put "Out of service" as soon as know.**
- **If somebody knows the unsafe condition, he shouldn't use the machine.**
- **Unsafe conditions must be communicated to every affected department as soon as know**

Date: *06/17/2007*
Time: *16:40*

Description of Work Performed:

The employee of Tool Company Sun was doing CNC operation.

Description of Incident:

-

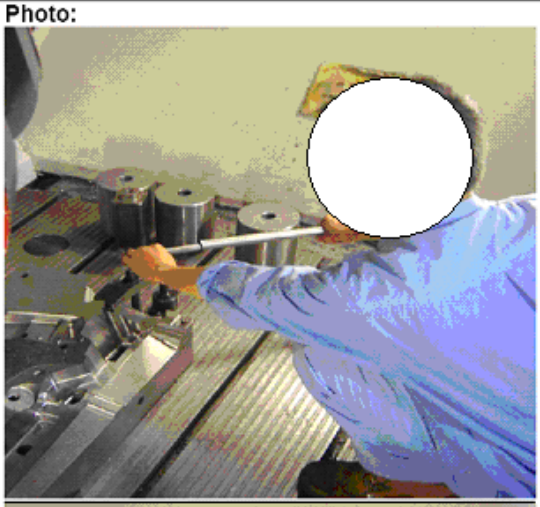
About 16:40 PM June 17th 2007. The employee of Tool [redacted] was doing CNC operation. He used wrench to tighten the nut in order to fix the mould block on the V77 machine. As he was tightening the nut, his hand slid off the wrench which made his right middle finger strike on the edge of the mould block;

Injuries:

--

The back of the middle finger was injured.
The employee was diagnosed that the back of the middle finger was injured by metal(1 cm long), the parenchyma was also injured, the bone was not injured.
The employee failed to report the incident immediately and went to the doctor the next day.

Photo:



Key Point Summary

There was some oil on the tools which caused his hand to slip.
He didn't observe the surrounding dangers (oil on the tools) and take the necessary measures to avoid the incident
Overexerting is the main cause.

Key Learning Points

- *Use plastic gloves, with special no slip grips to improve operators ability to grip tools*
- *Remind employees to wipe tools before using*

Date: Tuesday, August 28, 2007
Time: 11:10

Description of Work Performed:
Drilling hole with high speeed drill .

Description of Incident:

At 11:10 Aug 28th 2007,
Fitting a hole with a high speed drill which is overlapped on two steel plates in test room, a worker's right hand slipped off and hit a steel pipe due to its rotatory power on the plate. So he fractured his finger on right hand.

Injuries:

Fracture of the ring finger on the right hand.

Key Points Summary

- -Preventive Actions
- -Feedback to the employee of similar operation.
- -Installed support-bar
- -Use a table drill for big hole

Installed support bar on drill

Key Learning Points

- Conduct refresh training regarding proper drilling procedures
- Job instructions to be clearly posted
- Be able to identify defective equipment/improper use of equipment in the future